BUSINESS WEEK

OCT. 30, 1948

Jones & Laughlin's Dr. H. K. Work: Looking toward new future for metals (page 6)

A McGRAW-HILL PUBLICATION

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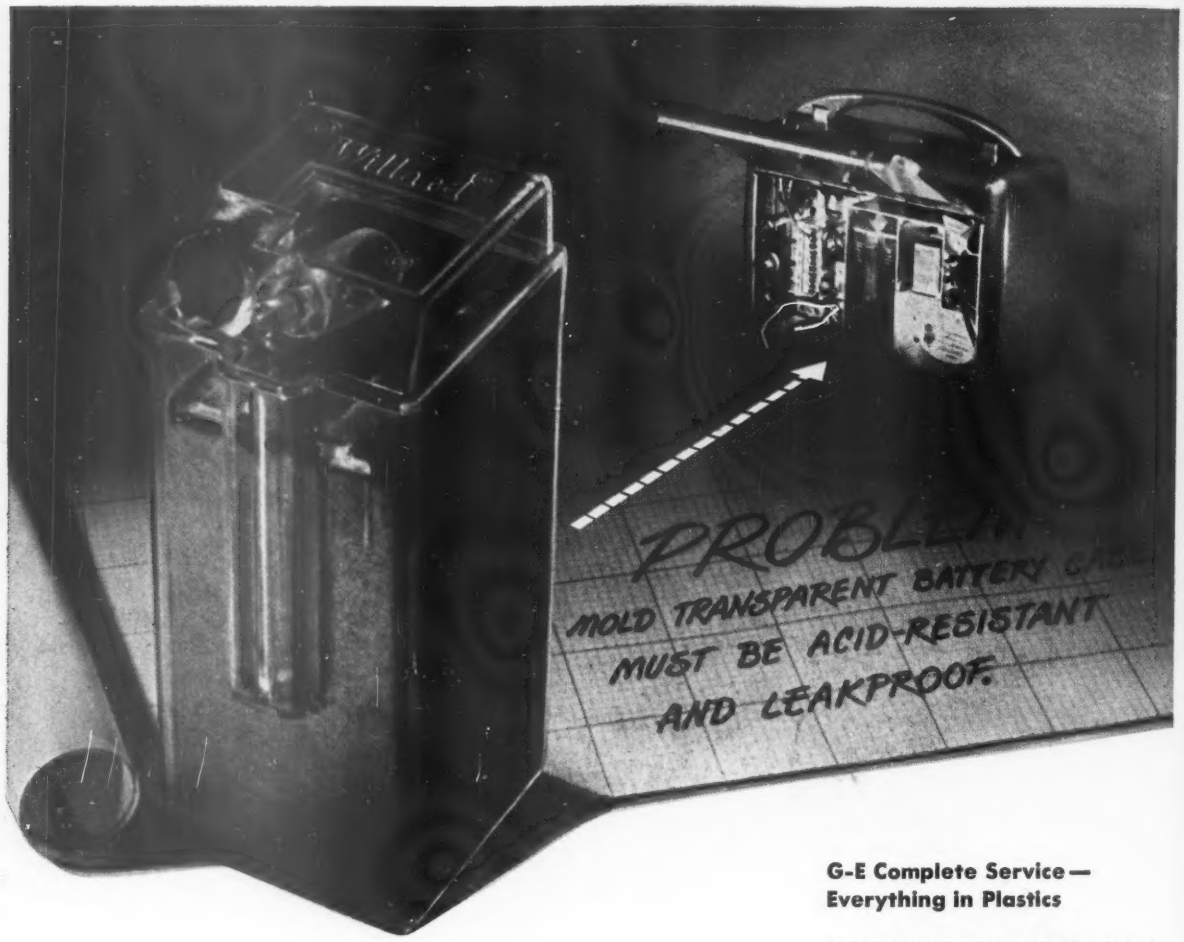
● ENGINEERED AND MOLDED AT NO. 1 PLASTICS AVENUE



A clear case for plastics

● Here's the battery that speaks for itself. Its transparent case lets you see the liquid-level at a glance . . . and a hydrometer, molded into the case, tells the charge. It's the storage battery for the G-E self-charging portable radio.

During the war, plastics battery cases proved their value in walkie-talkies, storm lamps, and other military items. For this Willard storage battery, the leakproof, acid-resistant case is injection-molded to exacting specifications by General Electric. The material is polystyrene—lighter than glass and stronger than hard rubber. G.E.'s *complete* plastics service covers every step in the design and manufacture of plastics products.

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ALL TYPES OF PLASTICS. Facilities for compression, injection, transfer and cold molding . . . for both high and low pressure laminating . . . for fabricating. And G-E Quality Control—a byword in industry—means as many as 160 inspections and analyses for a single plastic part.

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GENERAL ELECTRIC PLASTICS FACTORIES ARE LOCATED AT SCRANTON, PA., MERIDEN, CONN., COSHOCTON, OHIO, DECATUR, ILL., TAUNTON AND PITTSFIELD, MASS.

EVERYTHING IN Plastics

Always Trying & Trying
We're speeding all our work and skill
To make your service better still.
We're planning, building, buying
And most of all we're trying.

"To Make Your Service Better Still"

In the past three years, we have extended and improved telephone service faster than ever before. We're trying to do even more.

Every month we're putting $120,000,000 into new telephone facilities — completing new buildings all over the country — adding 250,000 new telephones in cities and on farms — changing 100,000 telephones to dial — adding 170,000 miles of Long Distance circuits.

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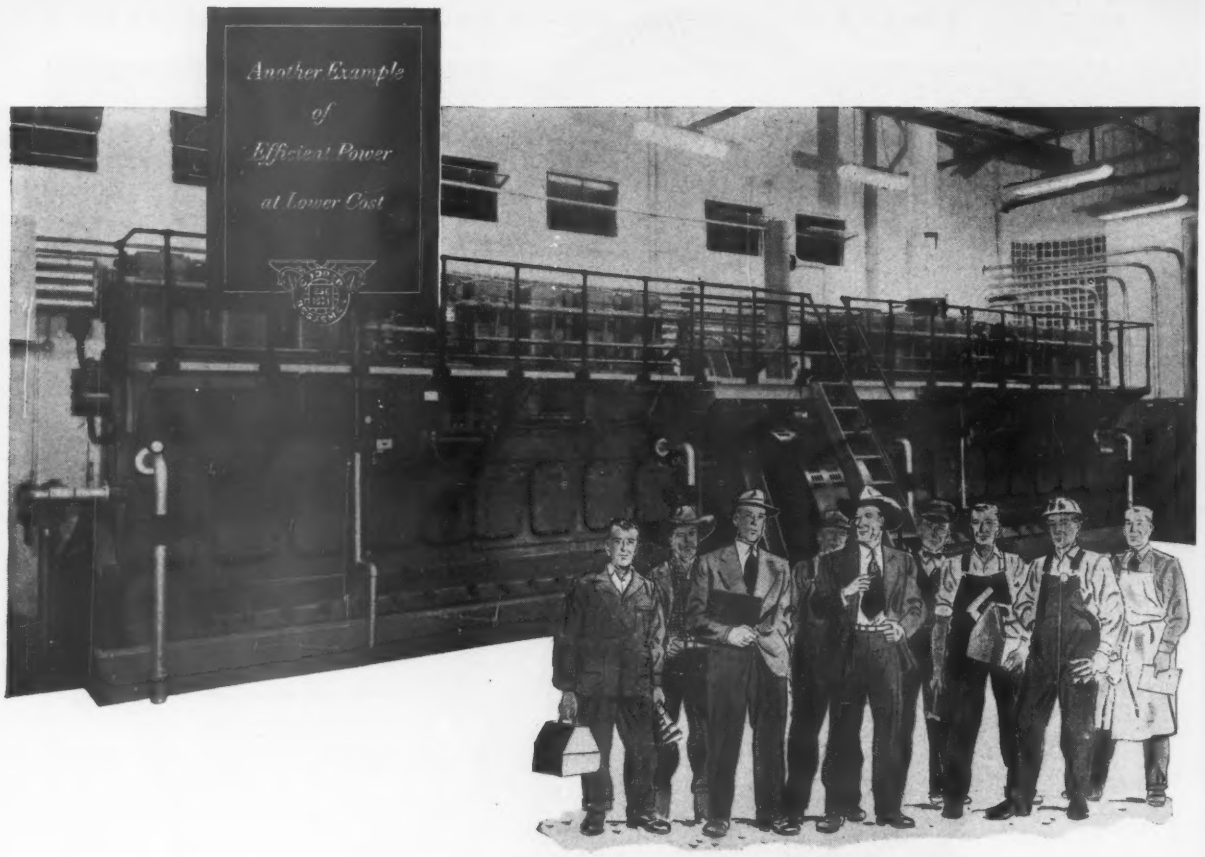
Your needs are very real to all of us and we won't be satisfied until everybody, everywhere, has more and better service than ever before.

BELL TELEPHONE SYSTEM



For Brady taxpayers...a friend indeed!

cuts fuel cost by 62½%

IN power plants, the major cost item is fuel. Cut this cost by 62½ per cent . . . *and that's something!* The people of Brady, Texas are pocketing such a saving because a Cooper-Bessemer gas-diesel engine now powers their municipally-owned light plant, permitting the use of low-cost gas fuel at an efficiency otherwise impossible!

The Brady plant, formerly powered by three ordinary engines, has long given Brady citizens electricity at reasonable cost . . . and with sufficient profit to largely carry the cost of fire and police protection, street lighting and other municipal expenses. Think, then, what this new saving means in even greater benefits!

The latest Cooper-Bessemer gas-diesel development, a factor at Brady, is highly important to most power producers. It now offers even at *fractional* loads the highest efficiencies ever reached by practical engines of any type!

This kind of development work goes on *all* the time at Cooper-Bessemer, leading to one important advancement after another—advancements that are applied to diesel, gas and gas-diesel engines for *every* kind of heavy-duty service.

So if you want to know how you can cut your power costs year in, year out, find out about the *new* things being done by one of America's *oldest* engine builders.

The Cooper-Bessemer Corporation

MOUNT VERNON, OHIO GROVE CITY, PA.

DIESELS • GAS ENGINES • ENGINE-DRIVEN AND MOTOR-DRIVEN COMPRESSORS • HIGH PRESSURE LIQUID PUMPS

This NEW 1248 Magnetic Counter

is easier to BUILD-IN as an original product-part

Here's another front-page headline from Veeder-Root, in advanced counter-design: A magnetic counter of smaller size . . . with a compact, streamlined, 2-tone case that adapts itself more easily to built-in installations. A magnetic counter that affords the utmost in durability and accuracy because it has fewer working parts. A magnetic counter especially adapted to remote-indication from plant to office.

The New Series 1248 Magnetic Reset Counter features the Veeder-Root "Ease-Eye" Direct-Reading Line of 6 large figures, in large windows, brought out boldly by the contrasting background of a band of light gray . . . *making direct reading easy,* at some distance. What's more, it features higher accuracy, faster operation, and more counts-per-minute. See how readily this new counter will fit into your product's design-limits . . . how it will increase your product's utility and sales. Write.

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There is Wire!

The metalworking industries have an amazing tool in the electric arc-welder. It has made possible new strong streamlining, and faster production of cabinets and skyscrapers, cars and battleships.

At Belden Manufacturing Company radically improved cables have been developed for the welding industry—with tough and durable insulations for long service.

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There is plus protection in Belden Wire

Belden

WIREMAKER FOR INDUSTRY

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Give your crystal ball the heave-ho, Swami. There's nothing mysterious about a punched card . . . once it's been through a *Remington Rand Interpreter*.

In an instant, the meaning of the holes is printed—words and numbers—on the face of the card. Printed clearly on any of 13 lines . . . in *any* position on a line. Printed right above the holes or wherever it's most convenient.

You can "interpret" only *part* of the card if you wish. You can even interpret the same holes in different places on the same card. Thus your punched card becomes in itself a complete, flexible, easily read accounting document.

But that's not all. This machine is also a *Posting Interpreter*. You can post information punched in one card to the following card or cards . . . to obtain paychecks, employees' earnings records, job tickets, labels, price tags, instruction sheets. And your original cards go back to file, always on tap for other uses!

Advances like these mean lower record-keeping costs. For information on this and other punched-card machines write Tabulating Machines Division, 315 Fourth Avenue, New York 10, N.Y.

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Cold Run • Fast Ready-to-Use

NEW!

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Faster...
for Hi-speed Assembly

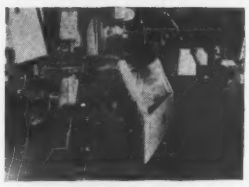
handles and machines in 15* minutes

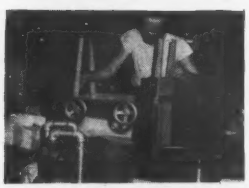
WOOD-LOK Q-3022 has been scientifically developed to meet the demand for a really hi-speed wood glue for joint assembly operations. It takes higher clamping pressures . . . sets faster . . . provides a quicker bond between wood and wood in a matter of 15* to 35 minutes depending upon the type of wood and its moisture content.

WOOD-LOK Q-3022 produces a moisture-resistant bond which is a durable resin joint. Its bond is *resilient,* not brittle. It withstands sharp impacts . . . provides stronger adhesion to such surfaces as 'Formica' and 'Masonite' . . . resists excessively high atmospheric temperatures for long periods of time *even under considerable strain.* Its durability lies in its sustained resiliency at all times. It never becomes rock hard or brittle during humidity or temperature change.

WOOD-LOK Q-3022, in addition, offers you all the advantages of National's *sensationally successful* regular *liquid* WOOD-LOK glues. Test it yourself. Write for a sample. Address: 270 Madison Ave., NEW YORK 16; 3641 Washtenaw Ave., CHICAGO 32; 735 Battery St., SAN FRANCISCO 11; and other principal cities. In CANADA: Meredith, Simmons & Co., Ltd., TORONTO and MONTREAL. In ENGLAND: National Adhesives, Ltd., SLOUGH.

SHOP TESTED FOR 10 MONTHS





WHERE TO USE WOOD-LOK GLUE

For JOINT ASSEMBLY OPERATIONS . . . where limited clamping time or rub joints are necessary to speed production . . . or where an economically applied, fast setting, durable bond is required.

National ADHESIVES

EVERY TYPE OF ADHESIVE FOR EVERY INDUSTRIAL USE

THE DEPARTMENTS

Aviation	42
Business Abroad	113
Business Outlook	9
Figures of the Week	13
Finance	99
International Outlook	111
Labor	88
Marketing	72
The Markets	107
New Products	63
Production	48
Readers Report	68
The Trend	120
Utilities	44
Washington Outlook	15

THE COVER

Harold Knowlton Work, research director of Jones & Laughlin Steel Corp., has been tapped for high honor—and an additional job. The American Society for Metals elected him president at its 30th annual meeting, held in Philadelphia this week on the 75th anniversary of the alloy-steel industry.

• **The Society**—A.S.M. is the metals industry's clearinghouse for basic know-how. It sponsors seminars and exhibits on metal and its industrial problems—all the way from the time it goes into the cupola until it emerges as part of a finished product.

That means dealing with alloying problems, heat-treating techniques, evaluation of properties, testing procedures, applications, and, most important of all, research.

• **The Man**—As president of A.S.M., Work's basic assignment will be to spark metals progress. That's a job which he fits well. Before he became J. & L's top research man in 1947, he had been manager of the Research & Development Dept. for 11 years. In both jobs, he drew on a broad metals experience that included manufacturing and research work in aluminum as well as in steel. His schooling—he's a Ph.D.—included a degree in chemistry. So he is well fitted for the complex alloy-metals program that has been lined up by A.S.M. for 1949.

In his professional interests, Work's mind is not single-track. He belongs to no less than 16 professional societies. They represent metals, foundries, mining, chemicals, electroplating, and ceramics, as well as such longhair techniques as optics, testing, research, and stress analysis.

He knows how to find his way around official jobs, too: He has served both as vice-president and as treasurer of A.S.M.; as chairman of the Pittsburgh section of the American Chemical Society; and as chairman of the Industrial Research Institute.

NYLON supplied what these products needed (WHAT CAN IT DO FOR YOU?)

…es your product need *strength?* Strength is …hat these giant tires need. They support loads …to 50 tons each—pack down airport runways …fore paving. The tire cords are nylon—because …ly nylon provides the necessary tensile strength …r flexibility, bruise resistance, durability.

Does your product need *extra toughness?* These felt blankets spend their lives going through the wringer . . . supporting wet paper as it passes through roller presses. "Felts" with nylon fibers blended into them better withstand stresses and tensions . . . have added toughness. Tests show they last 50% longer.

Must your product *resist chemicals and bacteria?* Powerful chemical and bacteriological action ruined filter cloth in sewage treatment plant in two or three days. Now nylon filter cloth lasts for three months. Also improves production because lintless cloth doesn't clog as easily . . . can be quickly cleaned with hose spray.

***…nger life* desirable for your product?** Steam …t at 335°, crushing action of press head, and …rption of starch made it necessary to discard …ding on pressing units in two days. Now nylon-…nel pads stay on the job for a week and more …and enable laundries to do a better pressing job.

…t your product need *flexibility* as well as …l strength? A super-tension conveyor belt …ng enough to carry the load was too stiff to …dle" and carry it. Then engineers tried weav-…n strong, flexible nylon fibers. Result: a super-…g belt with outstanding "troughability."

You may be able to improve production methods . . . make a better product . . . or a new product with Du Pont nylon fibers. For helpful information about nylon, write for new booklet, "Nylon Textile Fibers in Industry." And remember that Du Pont's knowledge of this man-made fiber is at your disposal. Tell us your fabric problem. Write on your letterhead to Nylon Division, Room 6510, E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Delaware.

For NYLON...for RAYON...for FIBERS to come...look to DU PONT

DU PONT NYLON

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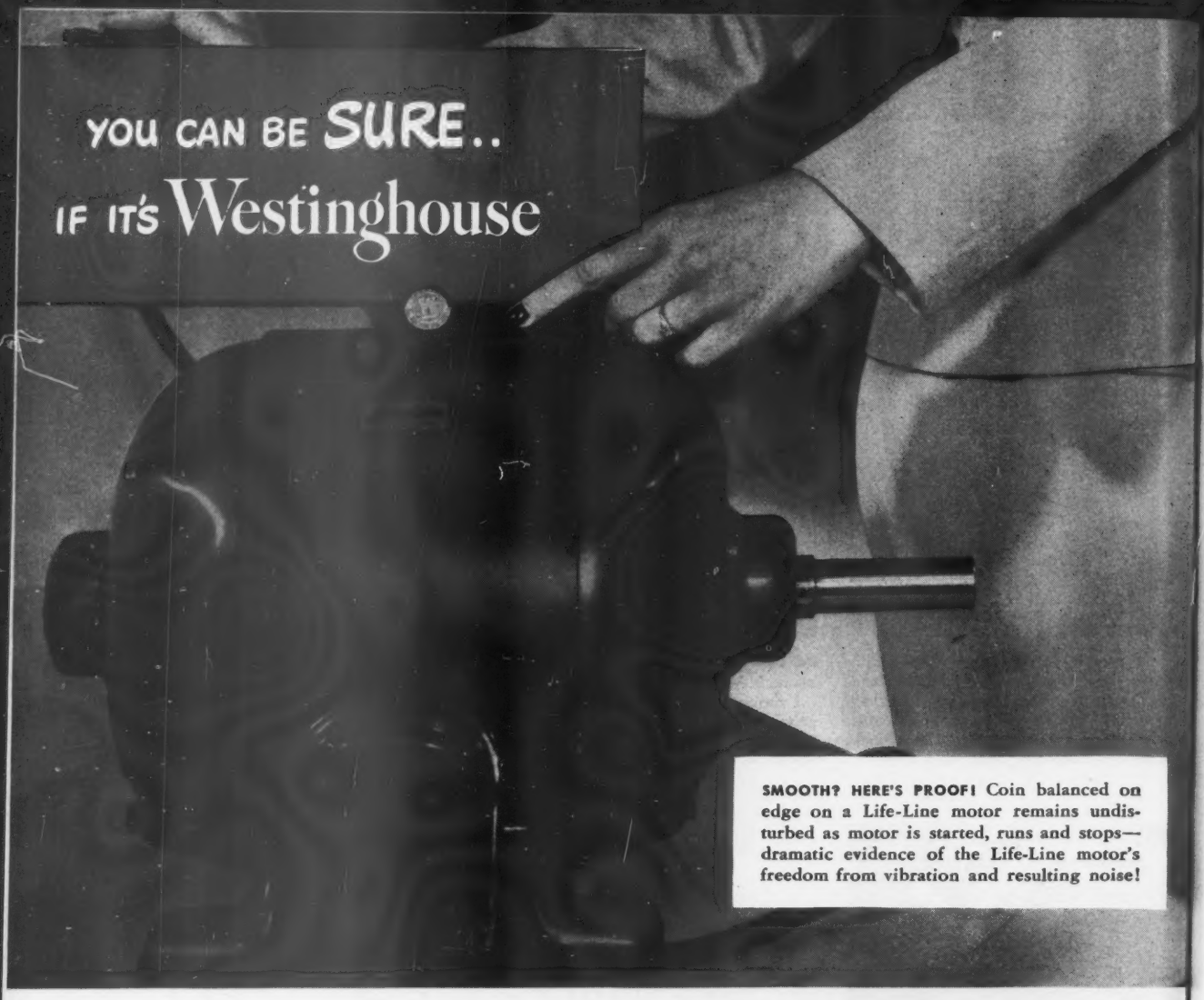
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY



SMOOTH? HERE'S PROOF! Coin balanced on edge on a Life-Line motor remains undisturbed as motor is started, runs and stops—dramatic evidence of the Life-Line motor's freedom from vibration and resulting noise!

NEW METHODS BRING "SPECIAL-MOTOR" SMOOTHNESS TO STANDARD MOTORS

Motors have been made in much the same way for many years—up to the time Westinghouse—with years of leadership in a-c motor developments—departed from "tradition" in electric motor concepts and built the Life-Line.

Motor-making traditions were broken by the basketful. Motor users were surveyed to find what they wanted in standard motors that they were not getting. Life-Line motors were designed and built from scratch—by new methods and new tools in a totally new plant—to include these features.

Quieter operation was one feature motor users asked. Life-Line motors provide it. Ventilating design limits "windage" noise. New manufacturing techniques insure absolute alignment and accuracy of fit, reducing vibration. Modern tests check every motor for accuracy in manufacture.

You'll want full details on other Life-Line features, too. Life-Line motors, now built in sizes from 1-15 hp, are available in standard and near-standard types from stock. Other sizes and types—up to 200 hp—soon will be changed over to modern Life-Line design.

Check your nearest Westinghouse office for deliveries—or write direct to Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Penna.

J-21457-A-1

MOTOR "ASTHMA" CHECK. Sounds that shouldn't be there don't get by this "noise detective". Audiometer determines wave length of noise; sound level meter (left) determines decibel rating of the noise; sound analyzer (at right) then indicates the relative amount of the different frequencies resulting.

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

Life-Line motors

BUSINESS OUTLOOK

Prospects for holiday trade have improved sharply in recent weeks.

Employment and payrolls remain high. A steady drop in insured unemployment shows this quite clearly; the total is down to 1,100,000.

And spending seems to have become freer as general confidence in 1949 has risen. Better stock prices (page 107) don't hurt, either.

•

Retail volume turned up early in October. A good Columbus Day helped. So did crisp weather.

Federal Reserve Board department store figures put the first half of October 10% ahead of a year earlier. This is quite a contrast to the last half of September; it barely nosed above the same 1947 period.

Laggard in October has been the San Francisco district. The Northeast, a listless performer in September's unseasonable heat, has snapped back.

•

Shoe prices aren't as firmly anchored at recent high levels as some of the industry's optimists have been contending.

Two leading companies have demonstrated that. International cut prices 5¢ to 25¢ a pair over the week end. And this week Florsheim reduced men's shoes for spring 50¢ at wholesale, but held the line on women's.

•

Production of shoes apparently was pushed up too rapidly after the sharp drop in July.

Both August and September figures show gains of about 2-million pairs over the same months last year. But the Tanners Council estimates that October output dipped to 40-million against 42.6-million in September.

Comparison of October with a year ago looks even worse However, the total of 46,765,000 pairs last year was abnormally high.

•

Interest in cotton textiles is picking up. You can feel this in mill towns or in New York's Worth Street, center of the gray-goods trade.

There has been a fair volume of orders for cotton fine goods. New England mills that had been operating four days a week or less got back to full-time operations the last few days. They hope to maintain this schedule to the end of the year.

In Worth Street, merchants will tell you that prices finally have come down far enough so that buyers no longer are altogether aloof. The merchants don't claim to be doing a world-beating business, but it's better.

This week, in fact, saw the best market tone in months.

•

Stocks of lumber are building up steadily. Prices of soft woods, at least, should average a bit lower in 1949 than in 1948.

Part of the present accumulation results from the West Coast shipping tie-up. Western mills pile up the finished product because their water routes to the East are closed to them.

But this is more than just a shipping situation. Southeastern soft woods are in increasingly good supply and prices have weakened a bit.

•

It's hard to guess when plywood will catch up with demand. But there, at least, are signs of improvement in the situation.

Production figures bounce around; it's tough to pin down a trend.

Nevertheless, it is a fact that August was the second best month on rec-

ord with production of 174,062,000 sq. ft., according to the Dept. of Commerce. That compares with 139,398,000 sq. ft. in the same month last year, and with the record of 185,700,000 last March.

An added improvement: Stocks of logs available for plywood at the end of August were nearly 25% larger than a year earlier.

•

Don't be surprised if a crop scare begins to build up just the way it did at this time last year.

Winter wheat has been seeded in dust throughout large parts of the Great Plains. Rain will be needed to germinate it. And more rain will be needed to bring it past the tender stage that can't resist cold weather.

There is one big advantage over last year, though. Once the crop is firmly rooted, most of the grain belt has ample subsoil moisture.

•

Smokes aren't likely to be any cheaper next year. The Dept. of Agriculture has computed its support prices on burley and flue-cured tobaccos. The 1949 floor under prices averages 5% higher than it did this year.

Thus, two main cost factors, labor and tobacco, are inflexible.

•

Shifting transportation patterns could spell a continuation of heavy demand for trucks. And most of them would be big babies.

Corporations are devoting long hours to figuring transportation costs. Many contemplate buying their own fleets (page 19) with which (1) to haul in raw materials, and (2) to truck out finished goods.

Truck manufacturers might well start digging for this business.

•

Railroads, traditionally, are big users of steel. Today, they even have a special set-aside program to assure them steel for new freight cars.

Yet they aren't the top steel customer, or even the second or third. Containers took 2,537,000 tons of steel in the first half of this year to top the railroad's consumption of 2,535,000.

No. 1 was autos at 4,925,000 tons (or 15.3% of total supply), followed by construction at 3,700,000, the American Iron & Steel Institute reports.

•

It takes a lot of steel to produce, refine, and transport today's record output of petroleum and natural gas. After a series of new records, crude oil output is virtually up to 5.6-million bbl. a day.

And the oil and gas industry got 2-million tons of steel in the first half of 1948. That's 6.2% of all steel shipped, against 5% in 1947.

What's more, the industry would use even more steel if it could get it.

•

A lot of steel plate will be needed to enlarge petroleum storage if National Security Resources Board plans are carried out.

The board figures civilians would have to be rationed at once in case of national emergency. The military wouldn't need all the fuel saved by rationing right away. The excess would have to go into storage until the time when the armed forces had petroleum-powered machines to use it.

The general idea is that at least a million barrels a day would be pumped for which the civilian market would be cut off.

And a lot of ordinary commercial storage would be useless. It isn't located where it would be needed in case of war.

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Beautiful to See...

beautiful to operate

the New MARCHANT

America's First Calculator again sets standards for highest achievement in calculator design with the new Marchant Figuremaster. .

BEAUTIFUL TO SEE: Five new features pleasing to the eye—emphasizing 40% greater dial visibility; functional, streamlined design; scientific color selection.

BEAUTIFUL TO OPERATE: Seven new features profitable to the user who is interested in the greatest amount of figure-work for the least expense and trouble—emphasizing the Universal Tabulator and Flip-set Decimals.

BEAUTIFUL TO TOUCH: Six new features helpful to the hand—emphasizing the Phantom Touch . . . no lighter touch is known.

With Marchant's traditional supremacy in accuracy control, simplicity and speed, these achievements establish the new Marchant Figuremaster as the foremost calculator in the business world.

FIGURE FASTER WITH A FIGUREMASTER

The Marchant Man in your phone book will be proud to show you how. Or for a complete description and full-color illustration of the Figuremaster, send for Folder 110, Marchant Calculating Machine Company Oakland 8, California

Greetings from a Friend

To generations of youthful Americans, a wave of the hand from the engineer of a passing train has been a welcome greeting from a friend . . . a greeting that helped create a life-time feeling of esteem for the railroads.

This friendliness is natural enough—for no other business of comparable size participates to the same intimate extent in the daily life of the people that it serves.

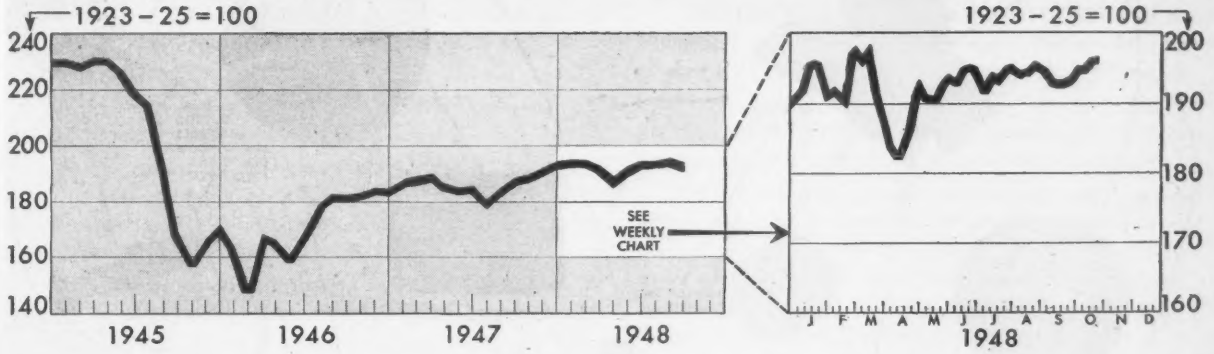
The one and a third million railroad employees live, not in a few urban areas, but in tens of thousands of cities, towns and hamlets, scattered all over the nation. The tremendous railroad investment is not concentrated in a few plants or factories, but distributed over a 200,000 mile network of line that criss-crosses the country. Each railroad man has a personal stake, and feels a personal pride, in the steady progress that keeps transportation service always abreast of ever-expanding needs. For the railroads and their personnel are both the partners and the neighbors of the nation.

Because brakes are basic to railroad progress, Westinghouse Air Brake Company shares this feeling of responsibility for continuing improvement, and the feeling of pride in successful accomplishment. A continuous research program now in its 80th year, keeps air brake systems abreast of today's requirements—forsees the needs of tomorrow.

Westinghouse Air Brake Co.

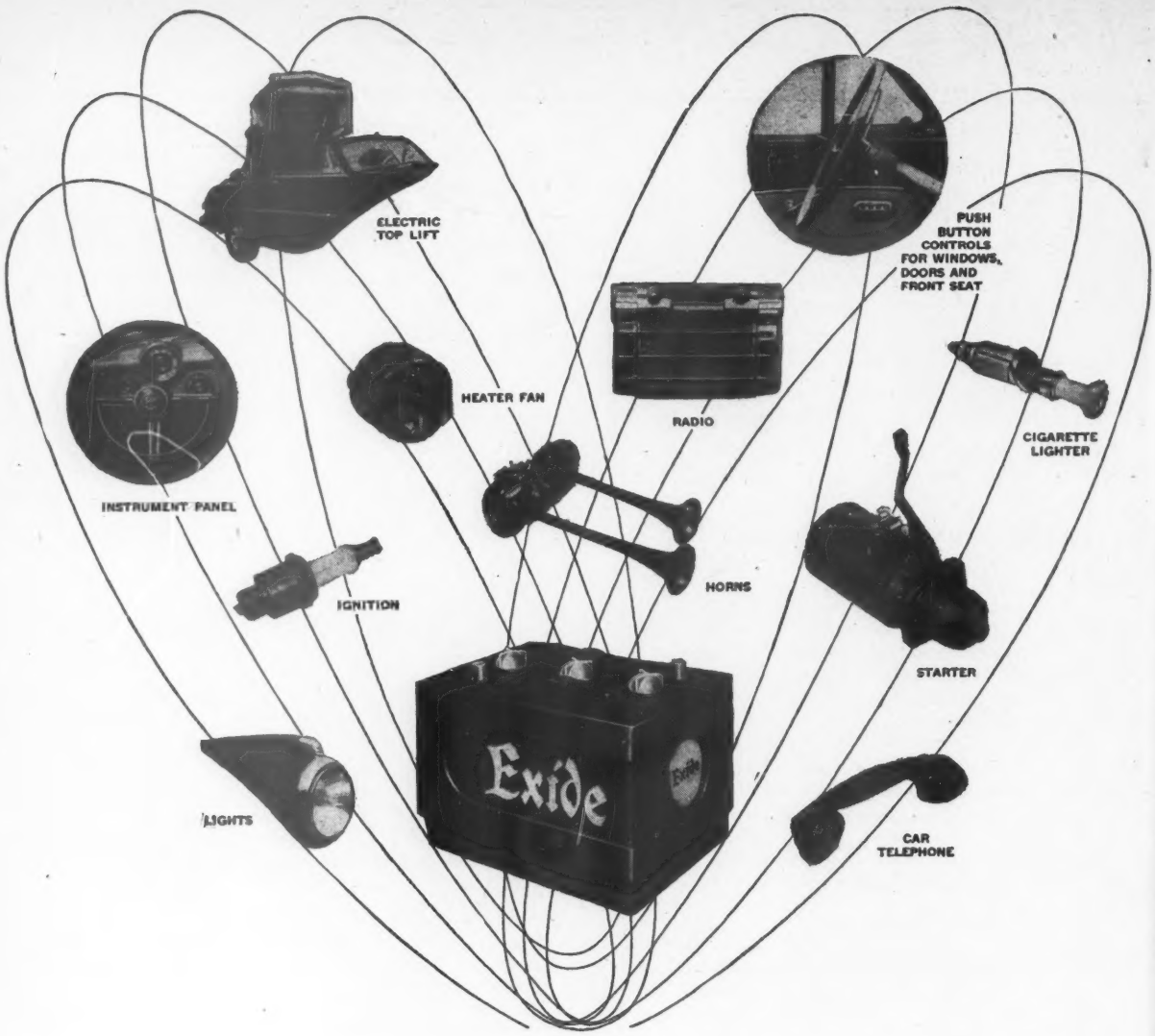
WILMERDING, PA

FIGURES OF THE WEEK



	§ Latest Week	Preceding Week	Month Ago	Year Ago	1941 Average
Business Week Index (above)	*197.0	†196.7	193.6	190.1	162.2
PRODUCTION					
Steel ingot operations (% of capacity)	98.9	99.1	96.4	97.0	97.3
Production of automobiles and trucks	122,817	†123,185	98,394	106,159	98,236
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands)	$27,018	$24,897	$22,549	$17,012	$19,433
Electric power output (million kilowatt-hours)	5,539	5,482	5,461	4,964	3,130
Crude oil (daily average, 1,000 bbls.)	5,596	5,586	5,343	5,295	3,842
Bituminous coal (daily average, 1,000 tons)	2,000	†1,975	1,973	2,123	1,685
TRADE					
Miscellaneous and L.C.L. carloadings (daily average, 1,000 cars)	89	87	87	93	86
All other carloadings (daily average, 1,000 cars)	64	62	65	67	52
Money in circulation (millions)	$28,157	$28,284	$28,083	$28,569	$9,613
Department store sales (change from same week of preceding year)	+11%	†+10%	+12%	+2%	+17%
Business failures (Dun & Bradstreet, number)	124	94	101	81	228
PRICES (Average for the week)					
Cost of Living (U. S. Bureau of Labor Statistics, 1935-39 = 100), Sept...174.5	...	...	174.5	163.8	105.2
Spot commodity index (Moody's, Dec. 31, 1931=100)	404.3	405.5	416.2	452.0	198.1
Industrial raw materials (U. S. Bureau of Labor Statistics, Aug., 1939=100)	275.5	275.6	277.0	289.0	138.5
Domestic farm products (U. S. Bureau of Labor Statistics, Aug., 1939=100)	324.7	326.2	332.6	394.4	146.6
Finished steel composite (Steel, ton)	$95.05	$95.05	$95.05	$75.41	$56.73
Scrap steel composite (Iron Age, ton)	$43.16	$43.16	$43.16	$42.58	$19.48
Copper (electrolytic, Connecticut Valley, lb.)	23.500¢	23.500¢	23.500¢	21.500¢	12.022¢
Wheat (Kansas City, bu.)	$2.24	$2.21	$2.22	$3.04	$0.99
Sugar (raw, delivered New York, lb.)	5.67¢	5.63¢	5.65¢	6.32¢	3.38¢
Cotton (middling, ten designated markets, lb.)	31.23¢	31.28¢	31.17¢	32.56¢	13.94¢
Wool tops (New York, lb.)	$1.584	$1.575	$1.599	$1.817	$1.281
Rubber (ribbed smoked sheets, New York, lb.)	22.32¢	†22.55¢	22.72¢	21.92¢	22.16¢
FINANCE					
90 stocks, price index (Standard & Poor's Corp.)	131.5	128.7	122.7	123.5	78.0
Medium grade corporate bond yield (30 Baa issues, Moody's)	3.51%	3.49%	3.46%	3.38%	4.33%
High grade corporate bond yield (30 Aaa issues, Moody's)	2.85%	2.83%	2.83%	2.71%	2.77%
Call loans renewal rate, N. Y. Stock Exchange (daily average)	1½-1¾%	1½-1¾%	1½-1¾%	1½-1¾%	1.00%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate)	1½-1⅝%	1½-1⅝%	1½-1⅝%	1-1⅛%	½-⅝%
BANKING (Millions of dollars)					
Demand deposits adjusted, reporting member banks	46,998	46,593	46,838	47,467	††27,777
Total loans and investments, reporting member banks	62,296	62,114	63,020	65,029	††32,309
Commercial and agricultural loans, reporting member banks	15,374	15,458	15,201	13,595	††6,963
Securities loans, reporting member banks	1,309	1,480	1,616	1,814	††1,038
U. S. gov't and gov't guaranteed obligations held, reporting member banks	33,416	33,022	33,921	38,632	††15,999
Other securities held, reporting member banks	4,341	4,378	4,456	4,249	††4,303
Excess reserves, all member banks	910	980	1,100	857	5,290
Total federal reserve credit outstanding	23,869	23,967	22,545	22,348	2,265

*Preliminary, week ended October 23rd.
†Revised.
§Date for "Latest Week" on each series on request.
††Estimate (BW—Jul.12'47,p16).



Electrical Heart...

The electrical heart of your automobile is the battery, that inconspicuous unit of concentrated power with so many jobs to do. It is busier than ever in the newer cars, for many of their added features are electrical. Thus there is a call for extra battery power, greater dependability and longer life... qualities you can always count on when your battery is an Exide.

Not only do Exide Batteries meet all the demands of automotive service, but they give equally trustworthy performance in numerous other fields. *For there are Exide Batteries for every storage battery need.*

In railroad service Exide Batteries are used for car lighting, air-conditioning, signal systems and Diesel locomotive cranking. They provide motive power for battery electric trucks, mine locomotives and shuttle-cars. Exide Batteries are used by telephone and telegraph companies, radio and television stations... in ocean vessels and aircraft... plus many other applications. And in millions of cars, trucks and buses, they give daily proof that "When it's an Exide, you start."

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1888 . . . Dependable Batteries for 60 Years . . . 1948

WASHINGTON OUTLOOK

A STANDBY WPB to go to work in an emergency will be ready by New Year's Day.

Men from industry—mostly ex-WPB'ers—are being tagged for key jobs.

Rules and regulations that industry would have to live by are about complete. These are mostly wartime L (limitation) and M (allocation) orders, dusted off and refurbished.

Manpower and equipment needs for greater production are being surveyed, priorities assigned.

Even office space is being allotted.

•

National Security Resources Board is putting the standby framework together. The Munitions Board is helping.

They are concentrating on nonferrous metals, fuel and power, manpower, machine tools, industrial equipment, and steel. Task forces in each are at work.

The man in charge is George Felton, NSRB's director of the Office of Production. NSRB is setting up the organization to give us a flying start. The next time there's an emergency, things are supposed to roll in the first two months.

•

What's happening in power and nonferrous metals shows how the task forces operate:

In power, Ed Falck is back, setting up the Office of War Utilities he ran during the war. He has brought in utilities people and equipment men as advisers—men like Robert Hatfield of Combustion Engineering Corp., another ex-WPB'er.

They are setting up rules for allocating equipment, tagging essential power users, enforcing brownouts. They want their orders to supersede authority of federal and state utilities commissions.

In metals, the chief aim is to see that mines get first crack at men and equipment. So John Croston's group of metals men with wartime government experience are mapping their own brand of priorities—to see that war plants have enough raw materials to chew up.

Controls are being roughed out for 20 metals —including lead, light metals, cobalt, titanium.

Also in the making are lists of marginal mines to reopen, new areas to explore, plants to expand.

Alongside all this planning is NSRB's draft of an emergency-controls bill (BW-Oct.9'48,p15). It's up to the next president to decide whether to put such a shelf program before Congress.

RESIGNATION OF CHAIRMAN FREER of the Federal Trade Commission reopens the whole question of FTC policy on pricing.

The next president will have two seats to fill on the commission. They are now held by Freer and Garland S. Ferguson, an interim appointee.

Both voted to outlaw the basing-point method of pricing. So, in replacing them, Dewey will show where he stands—for or against. If he names two men who will vote with Lowell Mason, lone supporter of delivered pricing, he can turn the 4-to-1 lineup into a 3-to-2 reversal.

On the other hand, his appointments could reinforce current policy—notify Congress that a bill legalizing basing points would be vetoed.

•

IT WILL COST $72 to watch the inaugural procession from a room in hotels along the Pennsylvania Ave. route.

Jacked-up rates: $24 a day, minimum of three days, payable when you make your reservation.

•

INTERPRETATIONS OF THE T-H LAW by the National Labor Relations Board are just about complete. The latest tells strikers how the law limits mass picketing and how unions can be held accountable for violations (page 97).

The board's crackdown on CIO's Harry Bridges in the Sunset Line & Twine Co. strike makes it clear when picketing is coercive: You can't intimidate a nonstriker by blocking plant entrances or by following him home from work.

•

With this decision, NLRB has now spoken on three of the unfair labor practices chargeable to unions under the T-H law; the Wagner act took only management to task. Earlier, the board had found one union guilty of a secondary boycott, another of violating the closed-shop ban by insisting on a hiring hall.

The part of the law that covers election of bargaining agents has been cleared up by rulings on voting rights of strikers, management's right to free speech, noncommunist affidavits, craft units, and plant guards.

•

The mass-picketing ruling hit unions just eight days before the presidential election. Actually the decision was made last spring; it has taken this long to write and hand down the opinion.

This timing, added to other harsh use of the

law against unions, raises the question of whether the board played politics. It fed resentment against the law; it gave union leaders a last-minute prod to get eligible members to the polls.

Some refinements of the boycott and closed-shop sections, and a ruling on jurisdictional disputes and featherbedding, are about all that's left in rounding out interpretation of the act.

•

CUTBACKS IN PRODUCTION of piston-engine bombers will be made in favor of jet-powered heavy bombers. That's an Air Force decision. The changeover will show up in its budget for the 1950 fiscal year.

Also up for increase in funds is production of 25-ton long-range transports; the Berlin airlift has just about drained available planes, practically shut down routine operations of the Military Air Transport Service.

OUTLOOK FROM ALBANY

ABOARD DEWEY CAMPAIGN TRAIN—Dewey is in, of course.

But the prospect that victory will be overshadowed by Democratic gains in Congress and in statehouses tempers the spirit of both Dewey and his staff.

The prospect is not all bad. Defeat of some Republicans can actually be useful to Dewey as underscoring the correctness of one of his major aims: to steer the G.O.P. away from Old Guardism and isolationism.

After all, if Dewey wins and Old Guardsman Robertson of Wyoming loses, the political moral can hardly be totally lost to a Brooks, or a Halleck.

There is concern, however, that the lesson might turn out to be an expensive one. No amount of moral justification could make up for loss of the Senate.

Realistically, unless the signs all fail, this will not happen. But The Dewey Team would be more confident this election eve if it were surer of the Senate.

•

YOU SHOULD DISCOUNT—almost totally—the widely current reports that Dewey intends to start moving in on his Washington job shortly after election.

That's barring an outbreak of war, of course, or some presently unforeseen grave crisis.

Dewey has decided that there can be no real assumption of responsibility for the affairs of state until there is authority to act. And there can be no authority until after Jan. 20.

Even more, Dewey won't want to share with Truman joint responsibility for something he alone will have to carry on next year.

The decision applies both to foreign and to domestic problems, though for different reasons:

In foreign affairs, Dewey feels there is no need for him to insist upon a direct role. UN delegate John Foster Dulles, Dewey's choice for Secretary of State, now works alongside Marshall at Paris. Under Secretary of State Lovett closely advises with Vandenberg in Washington. So Republicans already in official capacities can carry on the bipartisan program.

In domestic affairs, Dewey feels there is no problem so urgent that he cannot wait until he is in office to outline his policies. Thus, the federal budget for the 1950 fiscal year, which the President must present to Congress before Jan. 20, will be Truman's budget. What Dewey doesn't like about it, after his Team takes office, he will make clear in a supplementary budget later.

•

SO OPERATION TAKEOVER—The Dewey Team's preparation for picking up the reins of the national government—will headquarter in Albany.

Dewey himself plans to remain as Governor of New York until shortly before inauguration day; he will make the usual Governor's report to the Legislature when it convenes, present his own program and budget.

But, at the same time, The Dewey Team will be putting together its program for Washington. This work already is quietly under way.

Now you will begin hearing more of it. And you will be hearing, more often, of Charles Breitel; he has spent the campaign period boning up on the dimensions of the Washington job (BW-Sep.18 '48,p16). And you will hear more of John Burton, who will be Dewey's Budget Director in Washington as he has been in Albany; Burton already is gathering data for the supplementary Dewey budget.

There is nothing in Dewey's decision to let Truman run out his term alone that will prevent a White House meeting between the two. Such a meeting, in fact, is probable—if Truman wants it.

Dewey would insist, however, upon holding any such meeting to this one objective: notice to the world, especially Moscow, that U. S. international policy remains unchanged by the election results.

Have you heard what they're saying in your office?

"I want a new typewriter!"

"We want new Royals!"

Why the preference for Royal is better than 2 to 1!

SURVEYS SHOW that girls who type prefer Royals 2¼ to 1 over any other make of standard office typewriter.

Even more—*the preference for Royal equals the preference for the next three most popular standard office typewriters combined!*

Why this overwhelming preference for one typewriter?

Because Royals have time-saving, work-saving features not found on any other typewriter.

And because Royals are durable and sturdy—take less time out for repairs.

So give the girls in your office the typewriter they prefer using. They'll do more work, better work. With Royal, you'll get the maximum return for your typewriter investment!

ROYAL

World's No. 1 Typewriter

Made by the world's largest manufacturer of typewriters

Production of Marine Hardware at ELCHINGER FOUNDRY, NEW ORLEANS, Demonstrates Efficiency of *GAS*

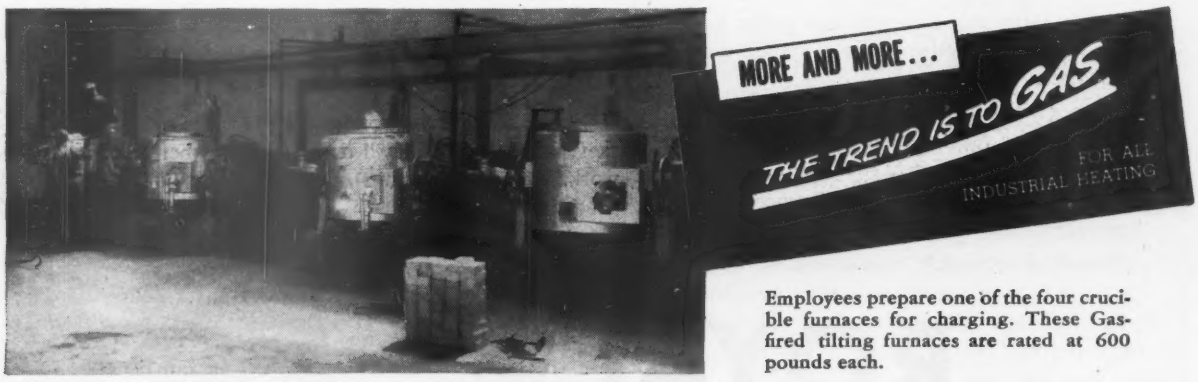
TEMPERATURE CONTROL is one of the most important factors in melting brass and bronze. And the strict control of each heat is especially important in the production of marine hardware which is subjected to extreme service conditions.

At the Charles F. Elchinger foundry in New Orleans, metallurgical supervision is facilitated by the use of four Gas-fired crucible furnaces which are so precisely regulated that any desired temperature can be maintained. This accurate control is necessary because various alloys require temperatures varying from 1850° F. to 2300° F.

But controllability is just one of the features which makes GAS the most desirable fuel for non-ferrous foundries. The four Gas-fired furnaces in the Elchinger foundry can be brought to heat in 2½ hours from a cold start or 1½ hours in succeeding heats—a simple demonstration of the speed of GAS.

The flexibility of GAS is important, whether it is used in a small foundry specializing in certain alloys, or in a large plant melting many types of non-ferrous metals. That flexibility is emphasized in the production control made possible in the Elchinger foundry by the use of four small furnaces capable of economical heating and reheating, at high speed, with GAS. In addition, cores are baked in Gas-fired ovens.

In every non-ferrous foundry operation requiring heat—for core-baking, melting, ladle heating—there's a job for GAS and modern Gas Equipment worth investigating.



Employees prepare one of the four crucible furnaces for charging. These Gas-fired tilting furnaces are rated at 600 pounds each.

AMERICAN GAS ASSOCIATION

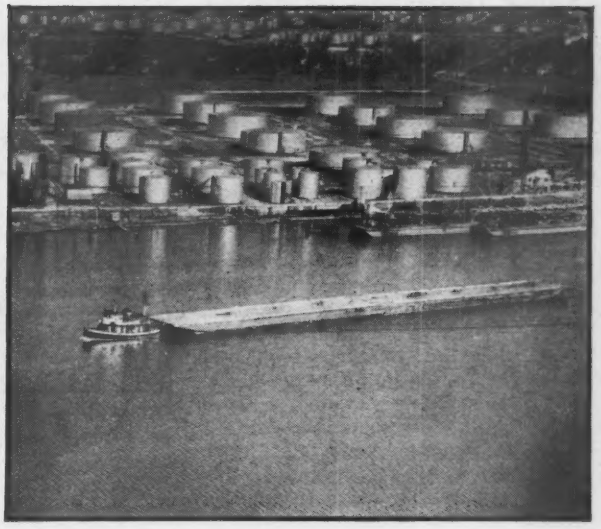
420 LEXINGTON AVENUE NEW YORK 17, N.Y.

BUSINESS WEEK

NUMBER 1000

OCTOBER 30, 1948

TRUCKS are backing up to more factory doors and . . .



BARGE traffic booms. It's business for them when the . . .

Transportation Pattern Changes

Shippers are shifting their traffic away from rail lines, relocating plants, to beat rising transport costs.

Cost-conscious shippers are threatening to make over the U.S. transportation system. Since the big postwar jumps in railroad freight rates, they have been switching more and more of their traffic to trucks or water transport. As a result, the rails have been losing ground competitively, even though they have had more tonnage than they could handle.

• **Rail Rates**—Already the shift has been big enough to make a real difference in future traffic patterns (BW—Sep. 25'48,p31). And shippers swear that if rates go up again, still more traffic will quit the rails.

Since the end of the war, railroads have boosted their rates about 44% (BW—Aug.7'48,p20). Now they are asking the Interstate Commerce Commission for another 13%. And they may raise the ante yet again if they have to make fourth-round wage hikes.

Truck rates have gone up too. But they have stayed beneath the rails. What's more, many shippers say the trucks give them better, faster service—especially on small lots and short hauls—regardless of cost.

• **Shifting Traffic**—You can't prove it by the figures, but you can find plenty of evidence that the trucks are chewing into the roads' percentage of traffic.

This is the peak season for the railroads. But carloadings have been running 3% to 6% lower than in 1947. Over the past nine months they have been 3½% lower on the average.

Truck traffic this year has been running 10% or more above 1947. And a substantial part of that gain has been coming out of the railroads' hides.

• **Survey**—A BUSINESS WEEK survey of the traffic managers of big shippers in various parts of the country gives a picture of what is happening:

Take one of the top ten steel companies, for instance. It says that the combination of higher freight rates and the shift to f.o.b. pricing has knocked the daylights out of its old shipping arrangements.

In 1946, about 84% of the steel that this company shipped went by rail. Now, the railroads are getting only 60%; trucks take 25%; and about 15% goes by barge. Company officials say the shift to trucks would have been even greater if they had more docks for loading them.

Or take a big midwestern food packing company. Its traffic manager says, "We are getting better service and saving money to boot. Until 1946 we moved about 15% of our tonnage by truck and 85% by rail. Today 45% goes by truck and only 55% by rail. Within a 600-mile radius of the plant, a good 65% is in trucks."

The Wisconsin Canners Assn. figures that only 38% of its 1948 pack of peas, corn, beans, and beets will go to the railroads. In 1946, it moved 72% by rail.

California packers estimate that 64.2% of their shipments to "group A" territory (the Northeast) went by boat in the first eight months of 1948. Last year, the percentage was 52.6%. And in 1946 it was only 32.1%. California shippers figure around 30% of the wholesale list price of canned fruits and vegetables in the East is transportation.

• **Slow Service**—Only one or two traffic managers complained about the railroad car shortage this year. Most of them said they were getting all the cars they needed.

But almost to a man they swore lustily about railroad service and the length of time rail shipments are taking—especially l.c.l. shipments. They concede that the carriers usually can't help it, but they don't like the delays any better for that.

One company said it could make deliveries faster by barge than by rail. Several reported that they had to carry larger inventories because of the un-

certainty about delivery of new stocks. One summed up his grievance this way:

"We used to get a carload into New York City by the third morning out of Indianapolis. Now it's more likely to take a week. A truck can do it in 48 to 72 hours. The railroad loses too much time in terminals in town, too."

• **Truck Fleets**—Traffic managers are paid to do a certain amount of beefing. And you can discount a lot of these complaints. But many companies can show definite steps they have taken to cut loose from the railroads.

There is a widespread move, for example, to set up company-owned fleets of trucks instead of using independent carriers. From a railroad standpoint, this is doubly menacing. Once a shipper gets a stake in his own trucking organization, even a rate cut won't lure him back.

One Kansas City manufacturer estimates that he can save $100,000 a year by operating his own trucks. He will keep on using rails for long hauls but plans to shift about four carloads a day of short-haul traffic to a truck fleet of his own.

Another midwestern shipper has worked out an elaborate network of truck routes connecting his plants with suppliers and customers. With careful planning he can get return hauls for most of his trucks. And this, he says, cuts his freight charges almost in half.

• **Relocation**—The railroads still have the edge on the long hauls. But up to 600 miles or so the trucks are crowding them hard. And on the long hauls the rails have another headache: Many big shippers are making strenuous efforts to cut down the total volume of their traffic, even if this means relocating plants or changing suppliers.

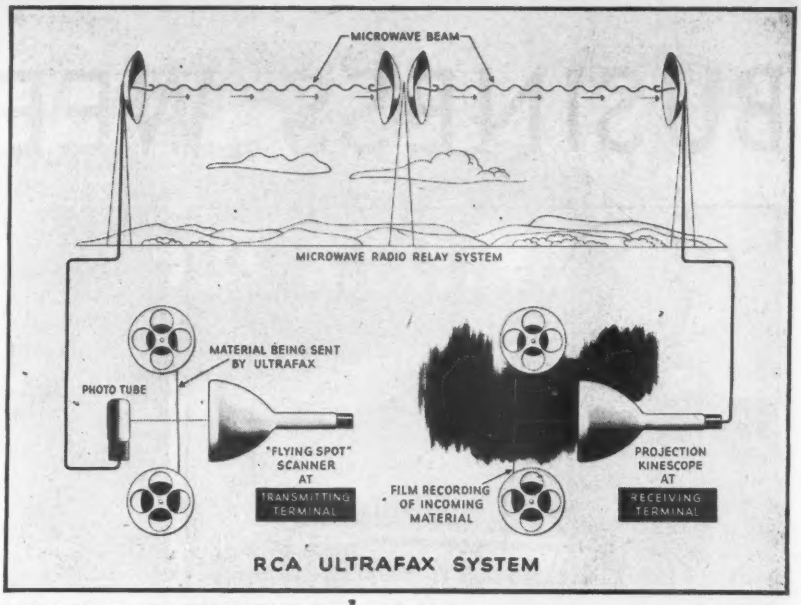
California packers, for instance, are building or buying canneries in the East and Midwest. Fisher Body Division of General Motors is putting two new plants into the Pittsburgh area, close to a steel supply.

In this respect, the rise in freight rates has given a boost to the trend toward relocation of industry. And the shift to f.o.b. pricing has helped speed up the process.

• **Spiral**—So far, the shift in traffic patterns hasn't made any visible dent in railroad revenues. But shippers and railroads alike are beginning to wonder uneasily about the future.

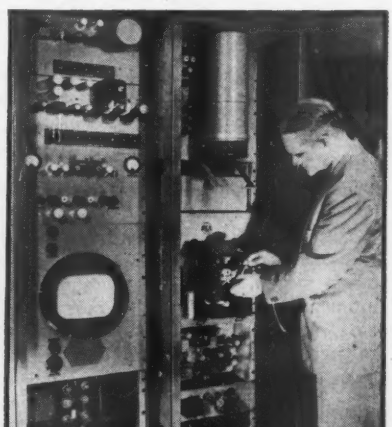
If the trucks keep on taking a bigger and bigger share of the high-value, short-haul traffic, the long rail hauls will have to carry an ever growing share of railroad costs. That could mean still higher rates and, then, still more shrinkage in traffic.

Nobody knows where a spiral like that could end. Rail executives are keeping their fingers crossed, hoping they will never find out.


MICROWAVE BEAM
MICROWAVE RADIO RELAY SYSTEM
MATERIAL BEING SENT BY ULTRAFAX
PHOTO TUBE
"FLYING SPOT" SCANNER AT TRANSMITTING TERMINAL
FILM RECORDING OF INCOMING MATERIAL
PROJECTION KINESCOPE AT RECEIVING TERMINAL
RCA ULTRAFAX SYSTEM

HIGH SPOTS OF ULTRAFAX: Beam of light from scanner sweeps across fast-moving film thousands of times a second, hits photo tube, which gives off electrical impulses. These are carried by microwave radio, relayed if necessary, to receiving end. There kinescope projects varying beam of light onto moving film, reproducing the original material. The film can be developed, fixed, and dried in 45 seconds

TRANSMITTING: Scanner (left) sends light through film to photo tube (in box)



RECEIVING: Light from kinescope (top) reproduces image on film in camera beneath

A Million Words a Minute

What would it be worth to a businessman to be able to get facsimile reproductions of important records from his branch offices and plants almost instantaneously? Or to transmit important material to key executives thousands of miles away?

That's the prospect opened up by Ultrafax—a new system of communications revealed last week by Radio Corp. of America and Eastman Kodak Co. It is capable of sending and receiving written or printed material at the rate of a million words a minute.

Many other uses are foreseen. A newspaper could be sent by Ultrafax and printed by offset in dozens of other cities within an hour or two. Engineering drawings or documents such as bank drafts that require identification could be transmitted in a few seconds. In time of war, one Ultrafax transmitter could handle in 10 minutes the peak load of traffic that cleared from the Pentagon Bldg. in 24 hours during World War II. (This week, RCA revealed that Russia tried to get rights to set up an Ultrafax system, got the brushoff.)

Shell Oil Turns to Caribbean

U. S. and Canadian groups put up $250-million to finance Royal Dutch-Shell expansion in Latin America. Aim is to assure supply in case war should break out and affect Middle East fields.

Major oil companies all over the world are leaning more and more heavily on the Middle East as a long-term source of crude. But what would happen in case of war? The Middle East would certainly not be a safe basket for all of an oil company's eggs.

• **Shell's Move**—That's what is behind the decision of the Royal Dutch-Shell interests to go all out in the Caribbean—perhaps as much as double their investment in the area. This week one of the subsidiaries of the Shell group borrowed $250-million to finance this expansion. The borrower: Shell Caribbean Petroleum Co. (formerly Caribbean Petroleum Co.), until recently a minor producer by world standards. The lenders: nine big U. S. and Canadian insurance companies and the Carnegie Corp. of New York.

The loan is in the form of a bond issue; it carries 4% interest, matures in 1968. Collateral is 8.8-million shares of common stock of Shell Union Oil Corp.—the top holding company for Royal Dutch-Shell interests in the United States and Canada. The stock has a current market value of more than $350-million. The bond issue was handled by Morgan Stanley & Co., was not offered publicly. It is Shell Caribbean's only funded debt.

• **Choice**—Royal Dutch-Shell has other companies in the Caribbean area: Nederlandsche Olie Maatschappij; Venezuela Oil Concessions, Ltd.; and Colon Development Co., Ltd. Yet it picked Shell Caribbean to handle the new expansion—chiefly because Shell Caribbean is chartered in New Jersey, while the others are Dutch or British companies. This difference is important for two reasons:

(1) The positions of the British pound sterling and the Dutch guilder are weak compared with that of the U. S. dollar.

(2) Even more important, it was much easier to get big American investors to put money into an American company.

• **"Development"**—Shell officials are reluctant to say just how they plan to spend the $250-million. All they will say is that it is "for oil development in the western hemisphere."

But since Shell Union and its subsidiaries handle operations in the U. S. and Canada, this probably means that Shell Caribbean will devote itself mainly to Latin America—though a Shell official would not definitely rule out the possibility that Shell Caribbean might also operate in Canada. Observers believe that "oil development" means exploration, increased production from existing fields, and expansion of marketing facilities.

• **Center**—It is likely that much of Shell Caribbean's work will center in Venezuela. That country now ranks third (behind the U. S. and Russia) in petroleum production, is by far the largest producer in Latin America. Its present output is around 1¼-million bbl. a day—about double the level of a decade ago. Shell recently brought in a 25,000-bbl.-a-day well in Venezuela's Mara field; this is certain to be exploited further.

It was Shell Caribbean's predecessor, Caribbean Petroleum Co., that opened the first commercial oil field in Venezuela. That was in 1913. (Caribbean Petroleum was then owned by General Asphalt Co. It wasn't acquired by the Royal Dutch-Shell interests until a couple of years ago.)

Today, the biggest producer in the country is Creole Petroleum Corp., a subsidiary of Standard Oil Co. (N. J.). Second-biggest is the group of companies wholly owned by Royal Dutch-Shell. In third place is Mene Grande Oil Co., in which Shell also has an interest: Mene Grande is owned 50% by Gulf Oil Corp.; 25% by Standard (N. J.); and 25% by Nederlandsche Olie Maatschappij, which is to be taken over by Shell Caribbean.

• **Mainland Refining Up**—Traditionally, most of Venezuela's oil has been refined at the giant plants on the Dutch islands of Aruba and Curacao; refining capacity of 500,000 bbl. a day is maintained there by Standard and Royal Dutch-Shell. But mainland refining has picked up a lot in the past five years. In 1943, Venezuela passed a law requiring new oil-concession holders to refine at least 10% of their crude in that country. By 1946, about 10% of total Venezuelan output was being processed domestically.

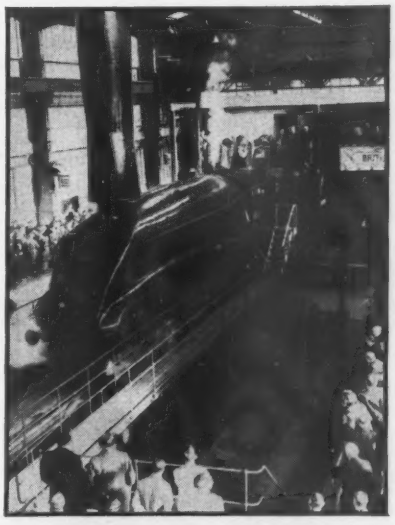
Right after the war, Standard and Royal Dutch-Shell began building big refineries on the mainland. These are scheduled to turn out more than 14-million bbl. a year of refined products when finished. Standard's Creole Petroleum is building at Amuay Bay. A few miles away, at Punta Cardon, the Royal Dutch-Shell group is at work on its installations. Creole is expected to be in full operation by 1952, and Shell by 1950.

• **Shell's Facilities**—The Shell facilities at Punta Cardon range from cracking plants to schools, roads, and workers' houses. Refinery units include a crude-distilling plant, a vacuum-distillation plant, a redistilling unit, two thermal cracking plants, a cracked-products separation unit, and a thermal reforming plant.

In addition, Royal Dutch-Shell has built docks for tankers, 325 buildings which will house 6,500 workers, a powerplant, water-supply and sewage-disposal facilities, 150 miles of roads, a hospital, a theater, schools, and a church.

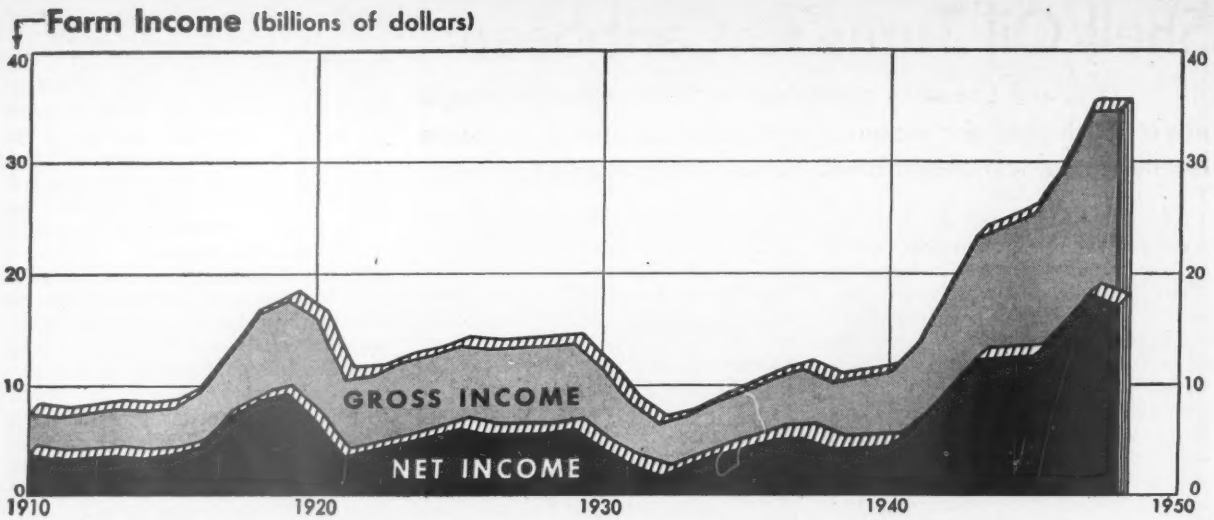
• **Expansion Due**—Other Latin-American areas where Royal Dutch-Shell is now operating, and where Shell Caribbean will presumably expand operations, are Trinidad and Colombia. Royal Dutch-Shell is a major producer in Trinidad. It began commercial production of oil in Colombia in 1945.

It looks as if the institutions that loaned Shell Caribbean $250-million have little cause to worry about their judgment. For one thing, the 8.8-million shares of Shell Union Oil Corp. which they got as collateral represent a controlling interest in the company. And this week Shell Union announced that its net income for the first nine months of 1948 had risen to $6.11 a share, compared with $2.87 a share in the same period last year.

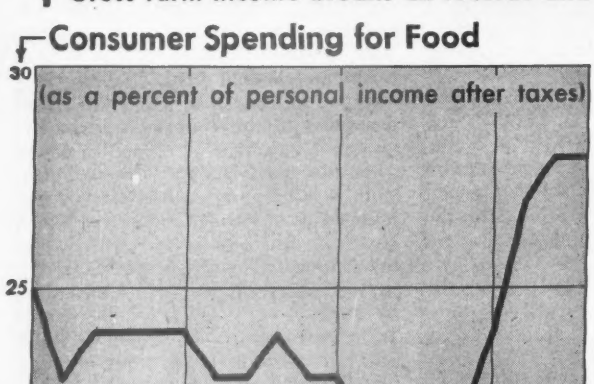


Indoor Pace Tester

On a new indoor proving ground at Rugby, engineers of the nationalized British railways last week showed off this "treadmill" to test locomotives. It's designed so that engines can be put through their paces at speeds up to 120 m.p.h.—while standing perfectly still. Most American makers try out their new models on open stretches of clear track. But they don't have to contend with the traffic congestion the British do.



1 Gross farm income breaks all records and net is far above prewar...



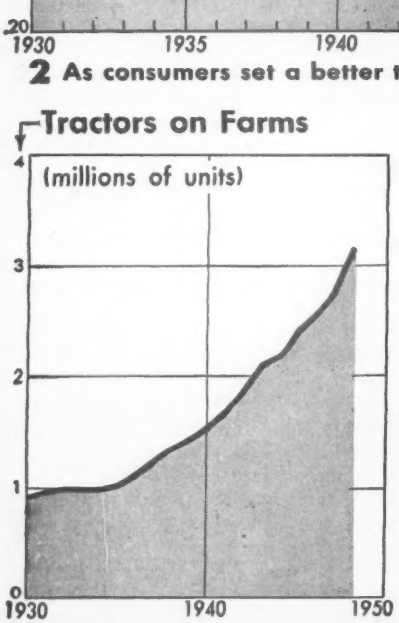
2 As consumers set a better table...

Farm Prosperity: What's Behind It

Familiar to everyone is the story of how farm prices have risen by more than 150% since 1940. Almost equally familiar is the one-third increase in the country's agricultural production. These are the factors that have resulted in record gross farm income (chart, above).

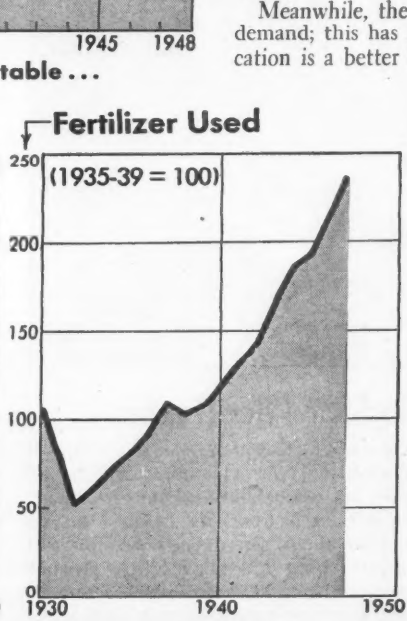
But there is a lot more to the farmers' prosperity than just prices and production. His net income depends on how much he has to pay for labor and for production supplies; cost of these has gone up. On the other hand, by mechanization, farmers have cut a good many man-days off their wage bills. And soil enrichment has paid dividends (charts, below).

Meanwhile, the future of farm output rests on consumer demand; this has risen, seems stable (chart, left). The indication is a better living standard—here to stay.

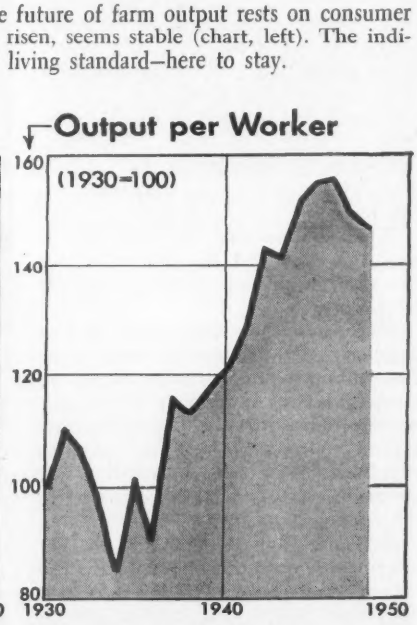


3 While machines...

Data: Dept. of Agriculture.



4 Plus fertilizer...



5 Raise productivity

© BUSINESS WEEK

Where's That War Boom?

Spending for military preparedness and ECA hasn't produced the predicted economic runaway. Instead, the effect has been a stable, slowly rising, high level of business.

What has become of the cold-war spending boom? Did it merely serve to ward off a decline in business? Is most of it still ahead? Should businessmen be looking for a renewed upsurge of prices, material scarcities, labor shortages this winter?

Those are the questions that businessmen plotting their course for the coming months are asking the economists these days.

• **Runaway Foreseen**—Last spring, Congress (1) gave the military nearly $14-billion for preparedness, and (2) promised western Europe $5-billion for economic rehabilitation. A lot of people figured this $19-billion would provide the steam for another economic runaway, with pressure all along the line, prices zooming, boom everywhere.

Obviously, it hasn't worked that way. This summer and fall, business looks closer to stability than at any time since the war—stability on a very high, slowly rising level. Industrial production has held steady for more than a year now at a full-employment level—almost flat except for a long-term upward trend. The cost of living in recent months has quit zooming, actually held steady in September (page 96). Industrial prices are still heading upward, but not at any runaway rate.

• **Spending to Come**—So the prophets of runaway now point out that only about $5-billion of the promised $19-billion has yet been spent. There's another $14-billion to come in the next eight months, they argue, and that will really put the pressure on. What about this?

BUSINESS WEEK has been checking the figures, talking to the economists in and out of government. Both the figures and the economists are hazy in spots, but what we find seems to add up to this:

• **(1) Impact**—Over-all, the economy is already feeling the full impact of last spring's decisions on cold-war spending. The impact has not been severe enough to create a runaway. It has been strong enough to maintain a generally upward tone in the face of such downward factors as huge farm production and the exhaustion of backlog demand in lines like radios and textiles.

• **(2) Next Year**—In mid-1949 the upward pressure might actually diminish a little if the government should limit its military and foreign spending to what's officially programmed: maintenance through fiscal 1949-50 of about the rate of spending achieved by the end of this fiscal year. That would eliminate the exhilarating psychological effects of an increasing program.

More likely, the government next year will pile on some of the additional spending that's being talked behind the scenes—military lend-lease to western Europe, for instance. If these prove moderate, as they look now, they might continue about the present level of pressure on the economy. Bigger—in a semiwar situation—they could carry the country across the dividing line between prosperity and the kind of economic chaos in which the government has to take direct control.

• **(3) Transition**—Behind this over-all picture there's a slow, still small, but significant shift going on—the peace-to-war kind of shift from a soft-goods to a hard-goods economy. Some 300,000 workers, for instance, are in process of moving from the relatively slack soft industries into aircraft and munitions plants. With most of the munitions contracts finally in the works, the contractors are pulling harder and harder on the metal supply. And ECA countries are beginning to shift their buying from food to machinery.

That's why manufacturers today are finding steel harder to get rather than easier, and why the supply and price situation in nonferrous metals gets tougher all the time (page 36). Short of government controls, these are pressures that are going to continue; a rising price structure, in which the cost-plus contractors can outbid the civilian producers, is the real mechanism by which the military gets what it needs.

• **Error?**—If that's the way the situation looks, where did the excitable people go wrong? Why has the effect of $19-billion been, actually, so slight?

What the boom-talkers forgot last spring was that the $19-billion wasn't really new money. Industry adjusts itself, more or less, to any steady level of government spending; it's a rapid increase that sets the sparks flying.

The $14-billion of military money was only about a $3-billion increase over the existing level of spending. And $5-billion for ECA hardly did more than maintain the rate of foreign spending that had been supported by emergency aid appropriations, the British loan, and European dollar reserves.

• **Anticipation**—People who point with alarm to the still unspent money in the government still forget one important fact: Government money makes itself felt in the economy long before it's actually paid out of the Treasury.

Business—like the stock market—discounts economic events in advance. Hardly had Congress made its cold-war appropriations last spring when businessmen in what was partly an unconscious process, began to figure the effect of these programs on their own operations and to plan accordingly.

• **Advance Orders**—Management began making commitments for materials—in an effort to beat the price rises that were clearly inevitable. New tools were ordered, new financing arranged—much of this before the first firm government contract was placed.

There is reason to believe that industry's sudden capitulation to demands for third-round wage increases stemmed partly from a feeling that, in an expanding boom, higher costs could always be passed along as higher prices.

In time, of course, the psychological impact of the spending programs—always a major factor in such a boom's early stages—began to wane. But before business activity could decline, the stream of ECA and military orders began to flow.

• **90% Set**—Today, as far as military orders for heavy equipment go, the flood is practically over. Congress gave the Defense Establishment $13.8-billion for fiscal 1948-49. Of this total, about $4.5-billion was earmarked for heavy procurement—mainly planes, ships, and construction. To date, the services have signed contracts for about 60% of these needs. And they have gotten in touch—via letters of intent or informal talks—with the firms that will produce another 30%.

Average monthly spending for heavy military goods in fiscal 1948 was slightly less than $250-million; monthly spending so far in fiscal 1949 has been at slightly more than $250-million; over the next 14 months or so (to late next fall) the rate will build up to about $400-million.

Of course, the services usually don't pay until delivery. But a government contract is good for a loan at any bank. Though a manufacturer may take a year before the first units reach the end of his production line, his wage and material payments reach full volume long before he begins to make delivery on his order.

• **ECA Switch**—For ECA spending, the outlook is pretty much the same. Europe is now beginning to switch its purchasing from relief to reconstruction items. Paul Hoffman has O.K.'d requisitions for only $300-million worth of machinery. But many other European customers have long since passed the specifications stage in their informal talks with American manufacturers. ECA's rising volume of formal procurement authorizations doesn't begin to tell this story.

Beef-Feeding Low

High price of feeders plus uncertainty of finished-cattle prices next summer keep feed lots bare.

Meat prices ought to be firm as bedrock right now. Yet this week there were signs that some wobbliness had set in.

• **Omen**—What's behind it, in part, is this: Cattlemen, like manufacturers, are afraid of loading up with expensive inventory. This is particularly true in beef; the price of feeder cattle is so high now that many a cattleman thinks twice before loading up. So this is the result:

(1) More beef is moving direct from ranges to packinghouses—creating the illusion that an era of stable or declining prices has begun.

(2) But there could well be less quality beef next spring and summer. Stiffer prices would come back then, postponing the long-hoped-for relief from sky-high steaks.

Corn cribs will be bulging this fall, but the volume of cattle feeding is no greater than it was last year. The peak of the movement of feeders has just passed; and so far, midwestern cattle feeders have crossed up the experts. They expected a lively market for range cattle to use this year's bumper corn crop. But, up to a week ago, the feeder market had been a slow, dull affair.

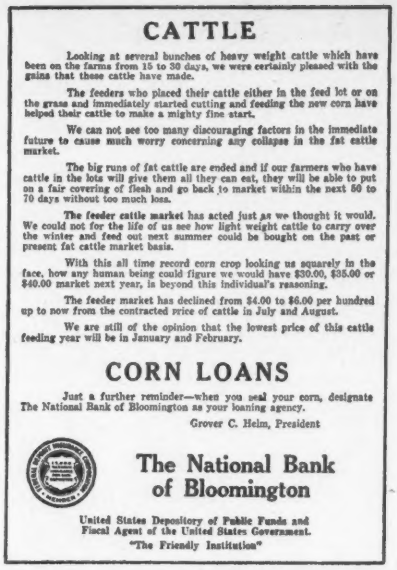
• **Reason**—Probably the main reason that a lot of feed lots are still bare is the high price tag on feeders. Coupled with that is the uncertainty as to prices that finished cattle will bring next summer.

The high price tags on feeders carry with them the problem of financing. One hundred calves weighing 450 lb. each mean an investment of a little over $12,000 when they cost 27¢ a lb. One hundred good-to-choice yearlings weighing 800 lb. at the same price will mean an investment of almost $22,000.

• **Bankers**—When the local bank is called upon to help finance the feeders, the banker's advice carries a lot of weight. In many cases his advice spreads a lot farther than just to those who need a loan. That's especially true when experienced agricultural bankers like Grover C. Helm, president of the National Bank of Bloomington, Ill., are in on the deal. He took newspaper advertisements to tell central Illinois farmers that feeders are high and that he believes they will be lower in January and February.

But there are others who believe that cattle feeders have overdone the caution angle. Last week R. W. Grieser, of the Chicago Producers Commission Assn., addressed the largest group of cattle feeders ever to attend the University of Illinois' annual cattle feeders meeting. He told them that farmers could stand a 20% to 25% break in slaughter cattle prices and come out all right.

Whatever the case, the cattle feeders are cautious. In addition to high feeder prices, drought is bothering some.



CATTLE

Looking at several bunches of heavy weight cattle which have been on the farms from 15 to 30 days, we were certainly pleased with the gains that these cattle have made.

The feeders who placed their cattle either in the feed lot or on the grass and immediately started cutting and feeding the new corn have helped their cattle to make a mighty fine start.

We can not see too many discouraging factors in the immediate future to cause much worry concerning any collapse in the fat cattle market.

The big runs of fat cattle are ended and if our farmers who have cattle in the lots will give them all they can eat, they will be able to put on a fair covering of flesh and go back to market within the next 60 to 70 days without too much loss.

The feeder cattle market has acted just as we thought it would. We could not for the life of us see how light weight cattle to carry over the winter and feed out next summer could be bought on the past or present fat cattle market basis.

With this all time record corn crop looking us squarely in the face, how any human being could figure we would have $30.00, $35.00 or $40.00 market next year, is beyond this individual's reasoning.

The feeder market has declined from $4.00 to $6.00 per hundred up to now from the contracted price of cattle in July and August.

We are still of the opinion that the lowest price of this cattle feeding year will be in January and February.

CORN LOANS

Just a further reminder—when you seal your corn, designate The National Bank of Bloomington as your loaning agency.

Grover C. Helm, President

The National Bank of Bloomington

United States Depository of Public Funds and Fiscal Agent of the United States Government.

"The Friendly Institution"

WARNING from bankers to cattlemen: Don't buy feeders now

Latin America Can Buy U. S. Jet Fighters

British competition has pried up the government's ban on the export of U. S. jet fighters to Latin America.

Britain has been sewing up what Latin American business there is. For instance, Argentina recently placed an order for 100 Glosters, the standard R.A.F. jet fighter. Both Lockheed (F-80 Shooting Star) and Republic (F-84 Thunderjet) were anxious to get the order.

But opening the door to U. S. jet planes won't bring a flood of business. Here are some reasons why not:

Orders must be approved by both Air Force and State Dept., then licensed for export as usual.

Shipments must be in proportion to a country's size and "importance."

Prices are too high for most countries.

Countries apparently itching to do some fighting—say Nicaragua or Guatemala—aren't eligible.

Contracts must bar resale to a third party.

One of the most promising markets is Brazil. It leans heavily on U. S. military aviation and is a natural rival of the Argentine. Venezuela is another potential market—largely because it has the dollars to pay.

Presumably, both Republic and Lockheed can fill any Latin American orders out of increased production without cutting into government commitments.

Price Boost Flops

Big oil companies haven't followed Phillips' move to raise crude prices. Balanced supplies are one reason.

It looks as if the move by Phillips Petroleum Co. to raise the price of crude oil is a lone affair. Last week, one of the independent oil companies which had done the same thing canceled its increase.

About a month ago Phillips started paying 35¢ more a bbl. for crude. Phillips figured that would lure more raw material into its refineries. But none of the other majors have followed suit; so Phillips has had to keep its selling prices for fuel oil and gasoline at the old level. A squeeze resulted.

• **Few Followers**—Only a few small independents went along with Phillips in hiking crude prices. All the major oil companies evidently feared public and government repercussions if they boosted fuel oil and gasoline prices at this time. More than that, the major companies feel that the crude supply is pretty well in balance with demand for refined products.

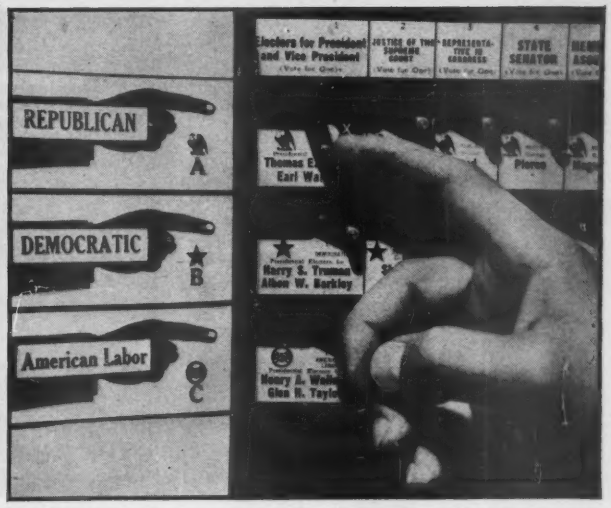
• **Difference**—The supply situation this fall is different from a year ago. Then, a 50¢ boost by Sun Oil Co. in the offering price for crude forced the other majors to follow along in spite of themselves (BW—Dec.6'47,p104).

Actually, the balance between the supply of crude and the demand for refined products is a delicate one. It could be upset by a lot of things: really cold weather, a big strike, a catastrophe, more military demand.

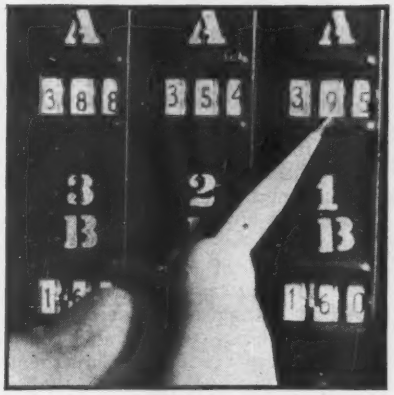
But most spokesmen for the major oil companies say that higher prices won't produce more crude anyhow. They feel the industry is already turning out every barrel it can. Production was 5.6-million bbl. a day last week (page 13), the highest in history.

• **Phillips' Reason**—Why did Phillips raise its offering price for crude, then? Until recently it had produced enough crude oil of its own to meet refinery needs. But late last year it bought a refinery in Sweeney, Tex. That threw its crude supply-demand situation out of balance, forced it to seek additional crude on the open market. Apparently Phillips couldn't get what it needed. So the company raised its offering price.

HOW A VOTING MACHINE WORKS: A booth in upstate New York will look like this. Voter enters and . . .

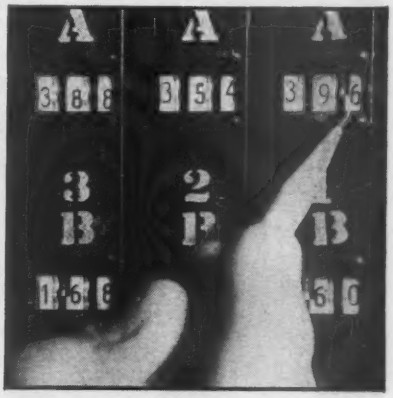


PULLS DOWN LEVER for Dewey and Warren (Col. 1, Row A) for president and vice-president. At this point . . .



BACK OF MACHINE looks like this, before vote is counted. Then . . .

VOTER THOWS the master lever, which automatically registers his vote. This . . .



ADDS ONE VOTE to the total shown on the 1A counter for Dewey and Warren

Voting Machines: Business as Well as Politics

Two firms sell the machines that are used today in 3,775 cities and towns. But two-thirds of voters still use paper ballots.

Next Tuesday the American people, and the politicians who seek their votes will see the voting machine merely as an anonymous device to register their choice of candidates. But to the two companies that sell them, the voting machines used in 3,775 cities and towns throughout the country mean dollars in the pocket.

• **Two Companies**—Larger of the two firms operating at the present time is Automatic Voting Machine Corp., of Jamestown, N. Y. It is now checking off its 50th year in business, has manufactured nearly 90% of the machines used in this country.

The younger of the two, Shoup Voting Machine Co., of Philadelphia, entered the field a little more than 10 years ago. Since then, it has been giving Automatic a taste of competition. It designs and sells machines, but subcontracts the manufacturing.

• **Sales**—Last year, Automatic's sales grossed $1,777,010—enough to keep a work force of 300 employed the year-round turning out 10 to 15 machines a day. Shoup's sales weren't up to that figure. One reason: The plant to which it farms out its manufacturing lacked sufficient capacity, according to a company spokesman. This year, he added, the company hopes to push the million-dollar mark.

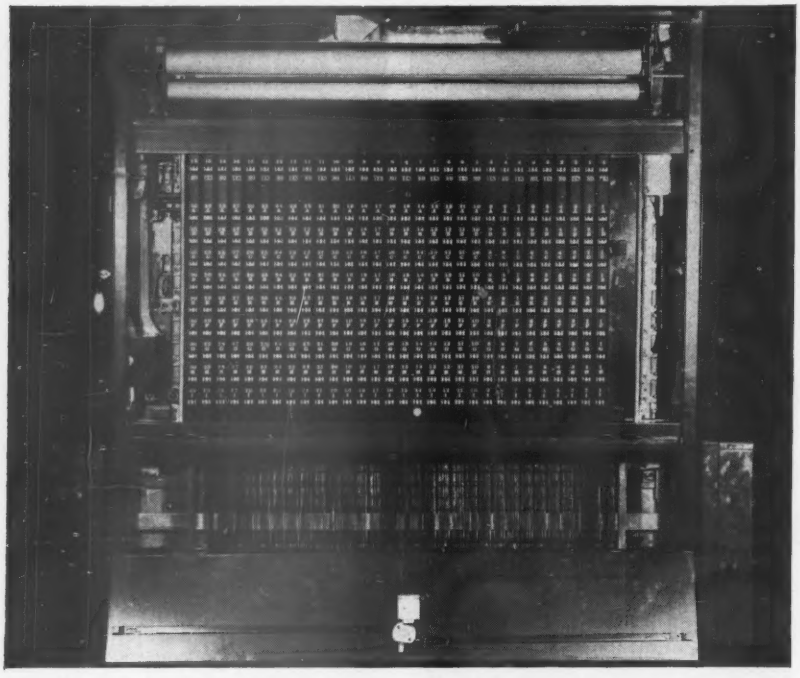
Until the middle 1930's, Automatic held a monopoly in the making, selling, and renting of voting machines. It began operations in 1898, shortly after the invention of the first practical voting machine, with the amalgamation of two companies: U. S. Voting Machine Co., of Jamestown, N. Y., and Standard Voting Machine Co. of Rochester. Subsequently, the company absorbed all rivals as they appeared. Only Shoup has been able to stand up against Automatic. (Incidentally, the basic patents expired in 1929.)

The voting machine is used primarily in political elections. But it is also used by many large unions, and by conventions of such organizations as the League of Women Voters and the Business & Professional Women.

• **Unpaid "Salesmen"**—Though the companies employ salesmen, most of the "selling" in a community is not done by the company representatives. Instead, the voting machines' best promoters are the groups interested in good government: the Junior Chamber of Commerce or the League of Women Voters.

There is little fear of overselling or glutting the market in the foreseeable future. Rising birth rates indicate the prospect of larger registration and voting ahead. Besides, there remains a vast

COUNTING WHEELS require careful inspection before they are placed in machine



BACK VIEW of machine after polls close. It's illegal to open back this way before polling ends. If opened, mechanism locks and machine becomes inoperative

territory still untapped, mainly in the Great Plains, Rocky Mountain, and southern states. Some two-thirds of the voters, in half of the United States, will still mark their ballots in pencil next week.

• **Edison Was In on It**—The first ballot in the United States was used in Salem, Mass., in 1629 to select a clergyman. Thomas A. Edison turned his inventive genius to the problem of accurate balloting in 1869; he intended his device to be used to record votes in the halls of Congress. Congress responded with a cold shoulder.

But Edison's thinking directly or indirectly influenced Jacob H. Myers of Rochester to perfect a mechanical counter for tabulating votes. The machine, used in Lockport, N. Y., in 1892, was a failure. Three years later, U. S. Voting Machine Co. developed a machine which was used with success in various upstate New York cities and towns. Then, in 1898, Standard's machine appeared on the market, and paved the way for the present-day mechanism.

• **Flexible**—The machines are sufficiently flexible to serve in many types of elections—whether there be many or few candidates, many or few issues. They leave space, also, for write-ins.

The present system of horizontal listings was adopted 40 years ago. Since then, there have been minor modifications of the machines to improve the mechanical apparatus and the safeguards that keep the tally honest. But the basic design is the same.

It's estimated that average cost per vote by the pencil-and-ballot method is 30¢; the machine cost is 15¢. The difference stems from reduced number of voting precincts, trimmed printing bills, and eliminated recounts.

• **Tamper-Proof**—Accuracy is guaranteed, because present machines are nearly fraud-proof. If the back is removed in an attempt to learn the tabulation, the mechanism automatically locks and can no longer be used during the polling day. Only a central key, usually kept at a county office, can make the machine operate again.

Automatic's machines contain three discs for each candidate, with a capacity to record up to 999 votes. (Most election laws require one machine for every 500 to 600 registered voters.)

• **Four Sizes**—The machines come in four sizes. All have nine rows for political parties. The largest has 60 columns for candidates; the smallest, 30. California, Illinois, and Indiana are customers for the largest; New York and Connecticut for the smallest. Average preference runs toward the nine-row, 50-column job.

About 10% of Automatic's gross income last year came from rentals, the rest from outright sales. Prices of Automatic's machines range from $1,130 to $1,460. When a community either rents or buys a machine, Automatic studies its previous election records to decide the size of the machine required. Then it trains a local custodian in care and adjustment.

• **Problems**—Sometimes the machines have tough problems to handle. For instance, in Indiana next Tuesday, voters will find a referendum question on a veterans' bonus. The machines have been so geared that a voter who votes "yes" can also choose among five methods of financing the bonus.

In South Carolina, voters had to choose four of five candidates for one office. State law specified that unless the voter picked four contestants his vote was void. So the machines there were set to ignore the count when the voter pulled down fewer than four levers.

Recently a recount in Maryland cost $125,000 and took several days, because most of the state uses paper ballots. But in Baltimore, where machines are used, the entire vote of nearly 600,000 was recounted in one eight-hour day, simply by checking the totals on the counters.

• **15-Year Dividend Record**—Automatic's stock is listed on the New York Curb Exchange. It has paid dividends every year since 1934. Its biggest year was in 1938, when sales of almost $2.5-

If buttons were ballots!

How confidently these old campaign pins named "Our Next President"! What votes they forecasted, what victories they claimed —a landslide on every lapel!

All of them, of course, look a bit ironic now — for when the oratory was over and the ballots were in, the figures told a different story than the buttons did.

But though many may have thought the best man lost, Americans were willing *to let the figures rule.* As a nation, we respect them — expect figures to be right.

That same feeling holds true in the nation's business, too—where vital issues are *also* settled on the basis of figures. And here as well, they must be non-partisan — objective — accurate beyond dispute.

You can bet your buttons Management knows what that means: Comptometer Brand Adding-Calculating Machines!

COMPTOMETER

REG. U. S. PAT. OFF.

ADDING-CALCULATING MACHINES

Made only by Felt & Tarrant Manufacturing Company, Chicago, and sold exclusively by its Comptometer Division, 1733 North Paulina Street, Chicago 22, Illinois.

N. W. AYER & SON

look-

no hands!

THIS IS
YOUR HEATING SUPERINTENDENT
WHEN YOU HEAT
WITH DRAVO HEATERS

IT'S an *automatic* fireman who goes on the job at the flip of a switch for the Sanatex Company of Chicago. It cuts operational and maintenance expense to the bone and solves what had appeared to be an expensive heating problem for this processor of wiping cloths.

Not only is an attendant unnecessary—boiler-room and ductwork expense was eliminated, too, by installation of a Dravo *Counterflo* Heater. Centered along the east wall, the Dravo *Counterflo* Heater is entirely self-contained—requiring only power and fuel lines and a small vent stack. Its 1,000,000 BTU output is directed slightly over the heads of the workers to blanket 10,000 square feet of unbroken plant area with draft-free warm air. Cold corners and excessive roof heat loss are eliminated. During summer months, a touch of the selector switch converts the Dravo *Counterflo* Heater immediately into a powerful air-circulating unit.

Dravo *Counterflo* Heaters are available in sizes ranging from 400,000 to 2,000,000 BTU output. Equally efficient with oil or gas and with or without ductwork, they can be floor-installed, wall-hung or roof-hung. Write for Bulletin HS-516. Heating Section, Dravo Corporation, Dravo Building, Pittsburgh 22, Pennsylvania.

DRAVO

According to Mr. Schulman, President of Sanatex Company, the Dravo *Counterflo* Heater "is the best equipment we ever had. Delivery of heat is virtually instantaneous when the unit goes into action—an important fuel-saving feature which eliminates the need for anticipating cold spells or keeping the heater in operation when the plant is closed."

Dravo also manufactures the *DRAVO CRANE CAB COOLER* for air conditioning hot-metal crane cabs

DRAVO CORPORATION

PITTSBURGH • CLEVELAND • PHILADELPHIA • DETROIT • NEW YORK • CHICAGO
ATLANTA • BOSTON • *Sales Representatives in Principal Cities*

million resulted in net income of over $500,000. Net last year, on $1,777,010 of sales, was $350,508. The company thinks 1948 will prove to be even better.

BUSINESS BRIEFS

ORLON, du Pont's new synthetic aimed at the market midway between rayon and nylon (BW—Aug.28'48,p20), will be made in a "multi-million-dollar" plant to be built at Camden, S. C. Employment: 800.

STAINLESS STEEL: Price fixing is forbidden; f.o.b. mill pricing is required; certain manufacturing patents must be licensed to all comers. That's the gist of a U. S. District Court order consented to by 18 firms including Alleghany Ludlum, Carnegie-Illinois, Crucible Steel, Republic, Eastern Stainless, Rustless Iron & Steel, Armco, Bethlehem, Sharon, and Timken Roller Bearing.

GREYHOUND has ICC permission to buy North Coast Transportation Co. North Coast runs 165 buses between Portland and Vancouver; it ties into Northwest Greyhound, whose purchase in 1946 gave Greyhound an entry into the Northwest.

LADIES' HOME JOURNAL advertising rates have been cut 5% and the rate-base circulation dropped from 4½-million to 4¼-million. Advertisers in May to September issues are getting rebates.

ELECTRIC WIRE price goes up 5% on Nov. 1, lead-sheathed cable 10%, U. S. Rubber announces.

PULLMAN-STANDARD is delivering more than four times as many rail cars this year as last—21,464 the first nine months of 1948 against 5,023 in 1947. One reason: a standardized box-car design on half the total (BW—Apr.10'48,p34).

FISHER BODY will set up two plants near Pittsburgh—a new 600,000-sq. ft. stamping plant, and a plant to cut sheet for stamping in a war surplus building at Ambridge. Motives: to get near a steel source; to supply East Coast body plants.

TRUCK LOADINGS in August were 7.9% ahead of July, were 18.9% ahead of August of last year. Steel carriers had the biggest gain over last year (page 19)—up 38.7%.

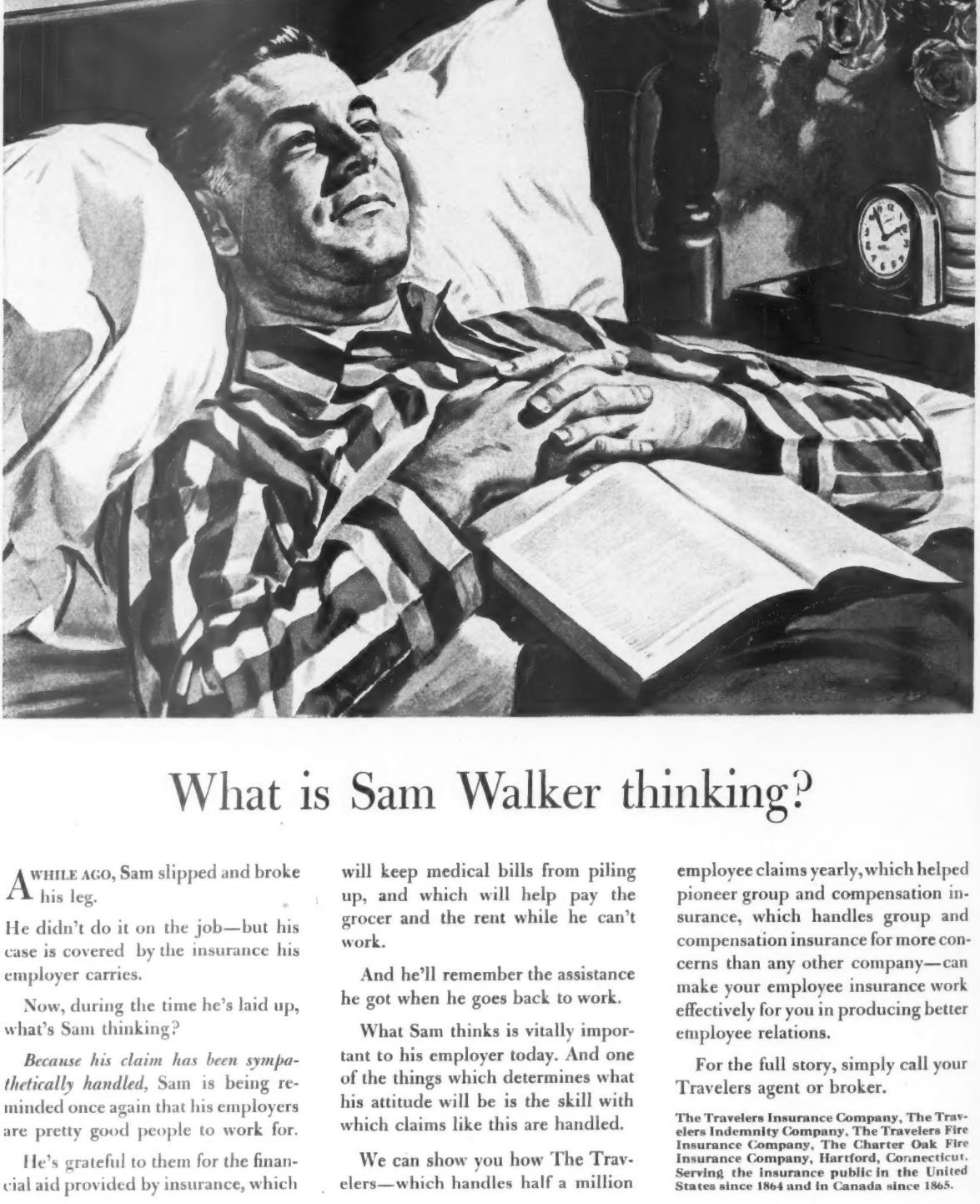
A PARK-AT-YOUR-DESK office building in Washington, D. C., will have its interior court occupied by a 10-story ramp garage. Realtor Morris Cafritz hopes to start it in January.

"The world's most powerful precision testing machines are products of **Baldwin**—testing headquarters for the nation"

OTHER BALDWIN PRODUCTS: Locomotives of all types; diesel engines; hydraulic presses; hydraulic turbines and water control equipment; ship propellers and propeller shafts; oil well pumping jacks; rolled steel products; steel and non-ferrous castings and forgings.

BALDWIN

The Baldwin Locomotive Works, Philadelphia 42, Pa., U. S. A. Eddystone Division; Standard Steel Works Division; The Whitcomb Locomotive Company; The Pelton Water Wheel Company; Baldwin Locomotive Works of Canada, Ltd.; Baldwin Locomotives International, Inc.; The Midvale Company.



What is Sam Walker thinking?

A WHILE AGO, Sam slipped and broke his leg.

He didn't do it on the job—but his case is covered by the insurance his employer carries.

Now, during the time he's laid up, what's Sam thinking?

Because his claim has been sympathetically handled, Sam is being reminded once again that his employers are pretty good people to work for.

He's grateful to them for the financial aid provided by insurance, which will keep medical bills from piling up, and which will help pay the grocer and the rent while he can't work.

And he'll remember the assistance he got when he goes back to work.

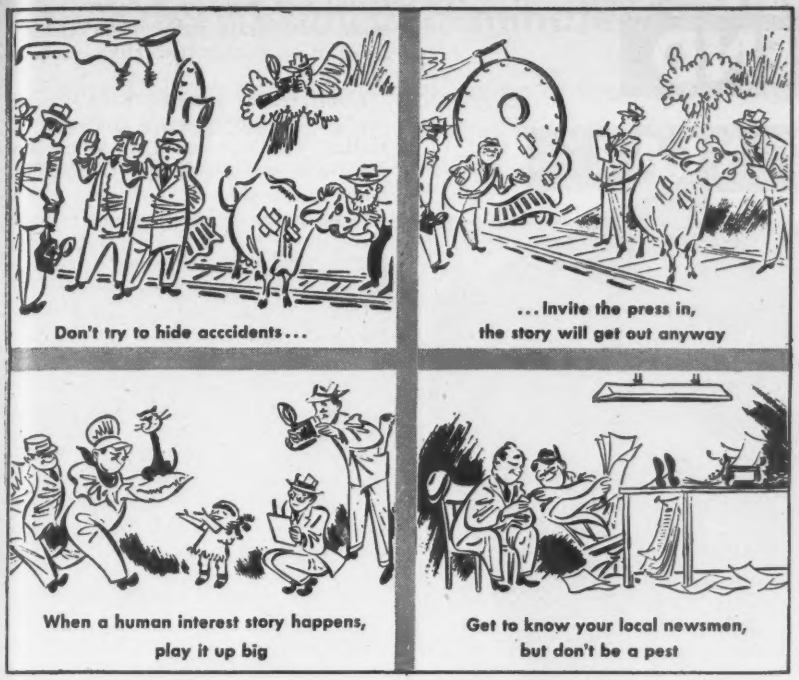
What Sam thinks is vitally important to his employer today. And one of the things which determines what his attitude will be is the skill with which claims like this are handled.

We can show you how The Travelers—which handles half a million employee claims yearly, which helped pioneer group and compensation insurance, which handles group and compensation insurance for more concerns than any other company—can make your employee insurance work effectively for you in producing better employee relations.

For the full story, simply call your Travelers agent or broker.

The Travelers Insurance Company, The Travelers Indemnity Company, The Travelers Fire Insurance Company, The Charter Oak Fire Insurance Company, Hartford, Connecticut. Serving the insurance public in the United States since 1864 and in Canada since 1865.

On all forms of Employee Insurance, you will be well served by **The Travelers**


Don't try to hide accidents...
...Invite the press in, the story will get out anyway
When a human interest story happens, play it up big
Get to know your local newsmen, but don't be a pest

How to Meet the Press

Cartoons and booklet, worked up by New York Central, offer helpful clews to other businesses on how to win friends. Weyerhaeuser Timber Co. is latest to use this guide to good public relations.

If you find a kitten wandering around your plant, hold that hand before you give the critter the brushoff. A little cat can make a lot of good promotion copy.

• **Nice Pussy**—So a western railroad discovered when a kitten was found on the platform of one of its crack trains after it had pulled out of a certain town. The trainmen took care of the kitten, arranged to have it returned to his home town, where some child may have been looking for it. Then the road got the story to the local paper. The Associated Press picked it up. It made the front page of newspapers all over the country. Result: The railroad had dozens of complimentary letters.

This week, Weyerhaeuser Timber Co. was telling stories like this to everyone on its payroll—from top brass down—who meets the public. Weyerhaeuser's public relations campaign was moving into high gear. The goal is to make sure that everyone—employees, communities where the company operates, customers, shareholders, government, and John Q. Public—understands company policies.

Lessons in how to meet the press are part of the campaign. Weyerhaeuser is putting out a guide to help local executives work with newspapers and radio.

• **"Tip" Sheet**—Weyerhaeuser, like many other companies, is taking its cue from the New York Central System. Central worked up a pamphlet, "How To Meet The Press," to guide its own employees.

This pamphlet was first published last year. Several trade publications wrote it up. Since then, hundreds of business and other organizations have asked the Central for copies—railroads, manufacturers, government agencies, banks, insurance companies, churches, journalism schools, advertising agencies.

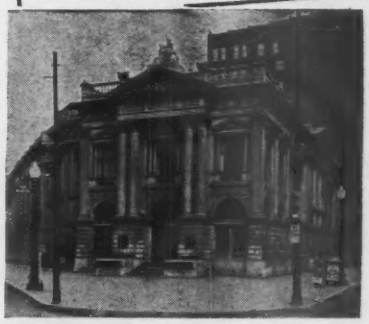
The Army sent for 500 copies; then it got permission to reprint the pamphlet for its public information officers. The Toledo Blade got 1,000 copies to give to local businessmen so that its business reporting job would be easier. So far, the Central has passed out over 10,000 copies, free.

"How To Meet The Press" is written from the railroad man's point of view. But any business can adapt it for its own special job. At the start, it makes the point that the future of the company and the security of its employees' jobs depend on favorable public opinion.

• **The Essentials**—The way to get favorable public opinion is, of course, to deserve it. But you can make your company look bad if you don't know how to meet the press. The essentials: "Give the full facts clearly, accurately, and as quickly as circumstances permit."

"How To Meet The Press" goes on

East Side, West Side, All Around Indianapolis



Main Office of Indiana National Bank, Indianapolis. Equipped when originally designed by D. A. Bohlen & Son with Webster Steam Heating System. In 1947, Strong Brothers, heating contractors, modernized the installation by installing Webster Moderator System.

The Indiana National Bank, successor in 1865 to the business of the Indianapolis branch of the State Bank of Indiana, organized in 1834, has been a Webster customer for over 34 years.

Ever since a Webster Vacuum System was installed in the main office building in 1914, Webster Equipment has been purchased, keeping the bank properties abreast of the latest developments in comfort and economy in heating.

In 1947, a Webster "Controlled-by-the-Weather" Moderator System with Outdoor Thermostat was installed in the main office building. Pre-fabricated Webster Convector Radiation with integral supply valve and trap was used.

Webster Systems of Steam Heating are also installed in three recently constructed branch office buildings.

An important factor in the success of these installations was the close association that has existed between bank management under President Russell L. White, Architect, D. A. Bohlen & Son, and Webster Representative, S. E. Fenstermaker.

The story of Webster heating in Indiana National Bank illustrates how Webster serves their customers. Let us help you with your heating.

Address Dept. 10-B

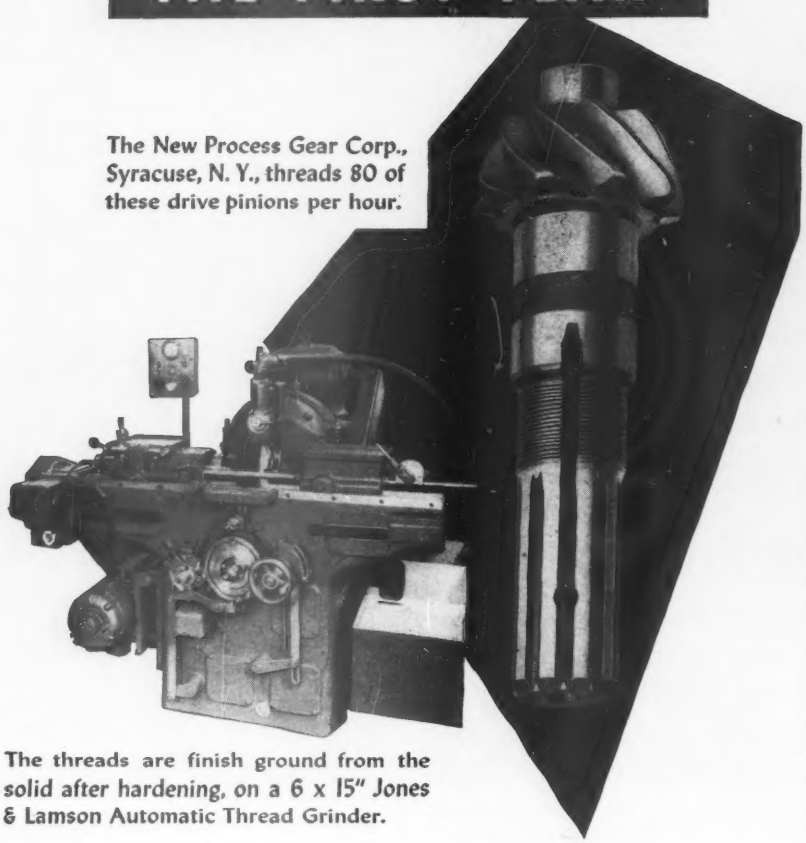
WARREN WEBSTER & CO.
Camden, N. J. : : Representatives In Principal Cities
In Canada, Darling Brothers, Limited, Montreal

Webster HEATING

110% DIVIDEND

THE FIRST YEAR*

The New Process Gear Corp., Syracuse, N. Y., threads 80 of these drive pinions per hour.



The threads are finish ground from the solid after hardening, on a 6 x 15" Jones & Lamson Automatic Thread Grinder.

110% of the funds invested in this machine returned to the purchaser during its first year of operation.

*The piece was completely machined, including the keyway in the thread diameter before hardening. A 6 x 15" J & L Automatic Thread Grinder, using a multi-rib wheel, grinds the thread from the solid, hardened pinion in two revolutions of the work piece, plus the feed-in and lap-over. Scrap was reduced 50%. The savings (based on a daily production of 700 units) in direct labor costs, overhead and gage cost, *paid for machine and equipment in 11 months.*

A survey of your turning, threading and inspection operations by our engineers, might well produce comparable results for you.
Write to Dept. 710 G

Thread Grinder Division

J&L JONES & LAMSON MACHINE COMPANY
Springfield, Vermont, U.S.A.

MACHINE TOOL CRAFTSMEN SINCE 1835

to tell how reporters and newspapers work, where radio fits in. Then comes a series of invaluable tips. Here's a sampling:

Controversial subjects: Keep cool if you are questioned on a controversial matter. The best course is to explain your company's position thoroughly, fairly, and clearly.

No answer: When you don't know the answer, say so frankly, and be as helpful as possible. Ask the proper department for help. When you have the information, tell the reporter at once. Let him be the judge if the answer comes too late.

Evasions: Don't wrap up an answer in evasions, red tape, or standoff treatment. What might have been a favorable story can turn into an unfavorable story on page one.

Putting obstacles in a reporter's way usually makes him work harder to get his story. Then, when it's published, it may be full of errors, because he didn't get the facts from the people who know them.

Quotes: There's no reason why you shouldn't be quoted by name on most stories. In a special case, all reporters will honor requests not to quote you by name.

The telephone: On telephone inquiries about tough subjects, it sometimes pays to promise to call back in a few minutes—and to use those minutes in lining up a clear reply.

On a difficult story, it's better to talk to the reporter in person. If there isn't time, you might write out a short statement and read it to him to avoid mistakes.

Press conferences: Write out your announcement, and have plenty of copies for distribution. You'll get a lot of questions, so anticipate as many as you can by figuring out the best answers ahead of time.

Color: Never color or stretch the facts. A good reporter will catch on to you.

Cocktail parties: Don't expect to buy stories with cocktails. Few real newspapermen go to promotion cocktail parties unless there's a real chance of getting some news, or unless important people will be there. At such times, cocktails are the courteous gesture. By themselves, they are useless as a source of good will.

Editorial only: Don't try to work through the newspaper's business or advertising department on an editorial job. Editors and reporters are quick to resent this, and may remember it in subtle but effective ways. Threats and scoldings don't pay, either.

Pressure tactics: You're much more likely to get a good break on a story if you don't ask for it. Don't ask such questions as: "When will this story appear?" "Will you send me a clip-

Inventory Control Eliminates Stock Withdrawal Posting

Ampro Corporation's novel application of Pro-duc-Trol's unusual Control System also reduces inventory investment, material in process, storage requirements and payroll costs.

Pro-duc-Trol installation controlling inventory at the Ampro Corporation.

Inventory and the control of parts for assembly are high on the list of manufacturers' problems today. Typical of comments often heard include: "We can't risk shortages, so we maintain a high inventory despite high labor and material costs"; "We need a great many records and spend considerable money on clerical help to keep things running smoothly"; "The system we use for inventories is involved and detailed"; "Probably our inventory is too high; but how else can we assure steady production."

• **The Ampro Corporation,** manufacturers of precision motion picture equipment in Chicago, Illinois, were faced with similar inventory problems. Last year K. S. Miller, Ampro Production Manager, came up with an entirely new application of Pro-duc-Trol for controlling inventories. Net result of the new system has been an amazing reduction in inventories and the cost of maintaining them; and the elimination of countless record keeping.

• **How Pro-duc-Trol Works**—As new stock is received it is interpreted into units of finished goods on the Pro-duc-Trol board. At the end of each day a vertical line called the *use-line* is moved ahead to reflect the day's production. By this single action, an immediate, accurate and automatic inventory is formed showing exactly what has been used and the balance still on hand. Daily postings of withdrawals from stock are eliminated. In fact, posting operations are reduced 80%.

The system abolishes tedious, time-consuming record keeping. There are no cabinets to open or cards to go through in order to obtain data. At a glance, Pro-duc-Trol reveals the complete up-to-the-minute picture of as many as 100 items per board. All information needed for each item in stock is presented visually. The relationship of the use-line to the horizontal lines indicating the quantity on hand give ample warning of when to reorder items; show when items are needed to meet specific delivery dates.

Visible interpretation of these recorded facts not only provides instant information on specific points but permits analysis of general trends and tendencies of business operation. Possible bottlenecks are spotlighted before they can occur and the causes are eliminated.

• **Inventory Slashed 30%**—Pro-duc-Trol inventory control has brought such efficiency and accuracy to Ampro that tremendous savings have been made. Primary has been the reduction of operating inventory by 30%. Insurance, taxes, depreciation, obsolescence, warehousing and other expense of maintaining inventory have been similarly reduced. These economies are all the more impressive in view of Ampro's increased efficiency in filling orders.

• **Clerical Staff Cut Two Thirds**—Pro-duc-Trol replaces Ampro's former system of maintaining inventory records which required constant analysis and research in order to establish production control. Control is now automatic from the visual picture presented by the boards. The hidden, inefficient records had been maintained at the rate of one clerk per thousand items. Now, with posting operations virtually eliminated, one clerk handles 5000 items. By reducing the size of the staff required to keep inventory control, by cutting down the amount of inventory at hand, and by getting rid of a seemingly endless mass of poorly organized records Pro-duc-Trol has enabled Ampro to save between 15% and 20% of office and storage space.

• **Adaptable to Many Industries**—It is estimated that the installation of Pro-duc-Trol Inventory Control will save the average manufacturer from 60% to 80% of his former clerical payroll devoted to inventory. Reductions of 25% to 35% in dollar investment in inventories are effected by Pro-duc-Trol.

Since most manufacturers foresee no immediate decline in labor or material costs this new Pro-duc-Trol application warrants the consideration of all who look to new and improved business methods as a means of continuing profitable operation. Pro-duc-Trol lends itself to every type of industry—whether production is on a large or small scale and regardless of the number of items to be controlled.

Inquiries concerning Pro-duc-Trol should be addressed to F. Lloyd Wassell, President; Wassell Organization, Inc., Westport, Connecticut.

Highlights of Ampro's Application of Pro-duc-Trol

Before

1. 3 Inventory Clerks handled 3000 items.
2. Operating Inventory out of control and excessive.
3. Records hidden and inefficient; information obtained piecemeal after opening cabinets and going through cards.
4. Procurement from vendors out of control and unbalanced.
5. Production controlled by analysis and research.
6. Bottlenecks discovered only when they hindered operation.

After

1. One Clerk handles 5000 items.
2. Operating Inventory reduced by 30%.
3. Rapid visual presentation of facts permits five to use equipment simultaneously without disturbing Inventory Clerk.
4. In first three months $50,000 in excess purchases eliminated.
5. Control automatic from the visual picture shown by the board.
6. Possible bottlenecks determined weeks in advance and avoided.

(Advertisement)

You don't go bear hunting with a popgun

It requires suitable equipment to get results.

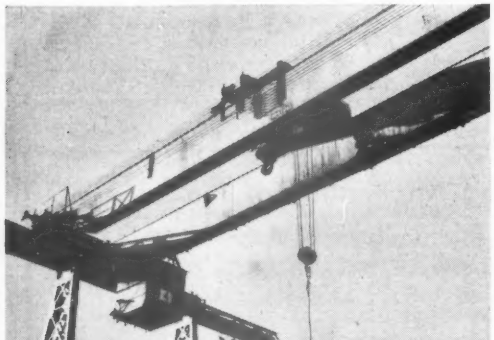
This is equally true in materials handling—nothing can take the place of an appropriately designed overhead traveling crane.

Whiting has more than 60 years' experience in designing and building cranes properly engineered to their jobs—to give the utmost service at lowest cost consistent with required loads, speeds, and frequency of use.

Whiting engineers will be glad to discuss your materials-handling needs and submit a proposal for a Whiting Overhead Traveling Crane. Let Whiting figure on your next crane.

WHITING CORPORATION

15661 Lathrop Avenue **Harvey, Illinois**



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IMPORTANT

Whiting has acquired the patents, manufacturing and sales rights to Spencer & Morris Trambeam Systems. These, combined with Whiting Hoists, Light Cranes, and Heavy Cranes enable Whiting to supply a complete, fully integrated overhead materials-handling system.

BUILDERS OF QUALITY CRANES FOR OVER 60 YEARS

Dependable · · Quiet-Running · · Durable

WHITING *Overhead Traveling* **CRANES**

ping?" "Will you give us a break on this story?"

Previews: Reporters don't like to show you their story before it is printed. Often, time is too short. Also, the reporter has to report both sides of a controversial question; he doesn't enjoy arguments about the way he has handled his story. So don't ask to see it. It's better to have both sides reported than just the other side.

On ticklish stories, however, newsmen will sometimes read back the essentials over the phone. On stories with no urgency they may ask you to check their story for errors of fact. If they pay you this compliment, stick to clarification of the facts. It's not out of place to suggest such a checkback, if you make it plain your interest is solely in accuracy.

Mistakes: Sometimes there will be errors. Expect some to happen, and be philosophical about them. If the mistake is really important, tell the reporter about it—courteously. Complaints to his boss only make ill will. If the reporter thinks the mistake is a bad one, he'll probably make a correction in a later issue.

Accidents: Don't lose your head and try to hush up accidents. That attitude just helps to start wild rumors. Let accredited reporters and photographers on the scene. But keep amateur photographers out.

Confidential matters: When you are asked about something confidential, explain why you can't talk. Be sure it's justified. If you expect to be able to give the answer later, say so; then be sure you do when the time comes. Don't volunteer that information to the competing paper at the same time you give it to the original inquirer. The alert reporter has a right to prior information. However, the other paper may also ask about this same matter before you are in a position to give the information to the first paper. In this case, give the story to both papers, and explain the situation.

"Off the record" information: Sometimes it's wise to give background information that will help the reporter interpret the facts you are offering. Make it clear if this information is not for publication or whether it is "not to be attributed to us if published."

Know your newsman: Every paper has its own ideas on what is news. You might call on the local editor and ask how you can help him. But don't be a pest.

Human interest: When you have a natural, like the railroad's kitten, grab it. It can pay off in good will. Maybe a story with a similar effect will come out of a new construction job, large local purchases, job changes, behind-the-scenes information on how your business works.

HOW TO LEAD A HAPPY, USEFUL LIFE WITH DIABETES

Diabetes results from the body's failure to make proper use of sugar and starches. This occurs when something goes wrong with the system's natural supply of insulin.

Starting with the development of prepared insulin 27 years ago, medical science has made many advances in treating and controlling diabetes. There is now hope that the use of radioactive "tracers" and other research will contribute to a greater understanding of this disease.

1. Today, by utilizing current medical knowledge through close cooperation with the doctor, the average diabetic may look forward to living a happy, useful life.

2. Prepared insulin is sometimes used when the diabetic does not produce enough for his needs. New, slower-acting insulins make possible more accurate control of diabetes.

3. Diet determines the amount of sugar and starch taken into the body. In some cases, by balancing diet and exercise, diabetes can be controlled without added insulin.

4. Exercise helps keep blood sugar at a safe level by using up sugars and starches. Many diabetics, by following their doctor's advice, are able to continue their favorite sports.

Early discovery helps control diabetes

A survey by the Public Health Service indicates that for every four persons known to have diabetes, there may be three others who have the disease without knowing it.

Since early diabetes has no obvious symptoms, discovery may come only when a doctor makes a urinalysis, and then, if necessary, a blood sugar test.

These tests are important for people most likely to get diabetes—those with a family history of the disease, or who are overweight and past 40, especially women. Everyone, however, should try to keep weight down, and have a regular medical examination which includes a checkup for diabetes.

If diabetes is discovered, it is reassuring to note that with good medical care, the average diabetic is living much longer. At age 40, his life expectancy is more than twice what it was before insulin was discovered in 1921.

To learn more helpful facts about this disease, send for your free copy of Metropolitan's booklet, 118-S, "Diabetes."

COPYRIGHT 1948—METROPOLITAN LIFE INSURANCE COMPANY

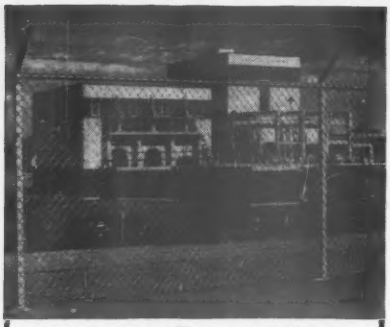
Metropolitan Life Insurance Company

(A MUTUAL COMPANY)

1 MADISON AVE., NEW YORK 10, N.Y.

TO EMPLOYERS: Your employees will benefit from understanding these important facts about diabetes. Metropolitan will gladly send you enlarged copies of this advertisement —suitable for use on your bulletin boards.

TO VETERANS—IF YOU HAVE NATIONAL SERVICE LIFE INSURANCE—KEEP IT!



THE BEST DEFENSE
IS A *Realock* FENCE

The difficult-to-climb diagonal mesh—the tamper-proof fittings—and the barbed wire topping of a Realock* Fence combine to assure maximum protection against trespassing, theft, arson and other costly hazards.

FREE ESTIMATES:—Without obligation we will submit estimates for fence material ready for erection or covering complete installation. For catalog and full details write to our nearest office.

*Trade-name of The Colorado Fuel and Iron Corp. and subsidiaries.

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361 DELAWARE AVENUE · BUFFALO 2, NEW YORK
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THE CALIFORNIA WIRE CLOTH CORP.
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BRANCHES & DISTRIBUTORS IN KEY CITIES · EVERYWHERE

Increase the
PULLING POWER
of your
Business Letters
Read...
Money-Making Mail

Do your letters pass the 1-2-3-4 test to make them Money-Making Mail? Or do they bog down in the very first paragraph?

Dr. Robert R. Aurner, eminent letter authority, has just written *How to Put SOCK in Your First Sentence.* It's free — and with it, that other valuable booklet *Money-Making Mail.* Put new power into your words on paper! Send for free booklets today —on your business stationery, please.

FOX RIVER PAPER CORPORATION,
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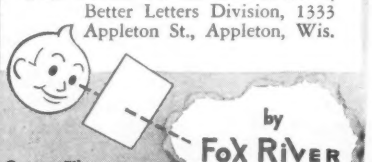


by FOX RIVER

Cotton-Fiber
BOND,
ONION SKIN,
LEDGER, watermarked "by FOX RIVER"

Metals Will Cost Still More

Add the Kennecott strike to your copper troubles. And that's just one inflationary factor in nonferrous metals. Some others: record demand, foreign speculation in materials, power shortages.

If copper already puts a ceiling on your rate of operations, your troubles may grow worse. Defense needs will be creeping up from now on. And on top of a bad situation, a strike of 311 locomotive engineers and firemen this week closed the world's biggest copper mine.

• **Heavy Blow**—This rail strike may not be much in its own right. But it ties up the ore of Kennecott's huge open-pit mine at Bingham, Utah. And it shuts off the ore supplies of the company's mills at Magma and Arthur. The loss: 18,000 tons of copper monthly—out of total domestic output averaging just short of 75,000 tons.

That is just one reason why prices of nonferrous metals still are pointing upward.

• **Lead**—"The inflationary period in metals is still with us. No price resistance has been encountered up to now. It may be only a matter of days before the price of lead advances again, and copper is very, very strong." That's the summary of one experienced observer; nobody in the trade this week seemed inclined to disagree with him.

Lead's price position, for example, is clear: Domestic users are paying 19½¢ a lb. for metal produced in this country. But they willingly bid premiums of anywhere from ½¢ to 3¢ a lb. for imported lead. Lead scrap is selling at prices which represent a premium over the posted domestic price for virgin metal.

Supplies of lead are especially tight, of course, because of strikes. Domestic mine output was cut by about one-third during July, August, and most of September by labor troubles in the Arkansas-Kansas-Missouri-Oklahoma area. Earlier, imports had been pinched by strikes in Mexico.

But lead was hard to get even before the strikes. And supplies haven't become notably easier since they were settled. Hence, the widespread talk of higher prices.

• **Zinc**—Each metal has its own peculiar problems. During recent months, zinc has been in relatively better supply than other maior nonferrous metals. But recently, other nations (notably France) have been outbidding American buyers for zinc concentrates that had been flowing to this country.

That was behind last week's markup of ½¢ a lb. on zinc.

The trade doesn't know whether U. S. buyers are being outbid in a three-way trade deal or not. It might work like this: France would buy zinc concentrates in, say, Australia. Its refining costs are lower than mills in this country; so it could overpay on concentrates and still sell competitively in the U. S.

• **Other Metals, Too?**—Such deals have been worked in other commodities. Thus, if France wants dollars more than zinc, it could buy in the sterling area. It would pay by means of sterling balances (if any) or in its own soft francs. Then it would sell for a hard currency—presumably dollars, or perhaps Swiss francs.

The same thing could be done by soft-currency countries in lead—at the expense of home industry's use of the metal. The metal trade for a long time has felt that the domestic markets might be vulnerable to Europe's dire need for dollars. And until this European metal

Brokers Story on TV

Wall Street's publicity-conscious brokerage house, Merrill Lynch, Pierce, Fenner & Beane, has been selling its wares over the television airwaves. The program, featuring polster Dr. George Gallup, is called "America Speaks." It holds a 15-minute spot Sundays at 10 p.m. over CBS' video network. And Merrill Lynch's commercial is a show within a show. It seems that Dr. Gallup's pretty secretary, Sue Shaw, (above) has $3,000 burning a hole in her purse. She wants to know how to invest it. So master-of-ceremonies, Rex Marshall, shows Sue (and listeners) the merits of putting her investment worries in Merrill Lynch's hands.

SURE

You Can Be Sure... that Westinghouse Lamps are of the highest quality

You Can Be Sure... that you can buy Westinghouse Lamps everywhere, and get them promptly

And You'll Never Do Business With Nicer People

Every distributor of Westinghouse Lamps is carefully selected; and every last one of 'em sees to it that customer service comes first. That's why we're so proud of them. See if you don't agree. Call your distributor. Or write: Lamp Division, Westinghouse Electric Corp., Bloomfield, N. J.

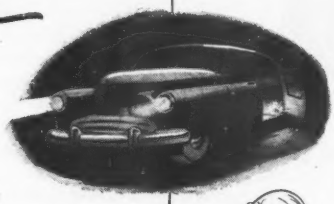
YOU CAN BE SURE...IF IT'S

Westinghouse

THE NAME YOU KNOW IN *Lamps*

An eye for the ladies—then...

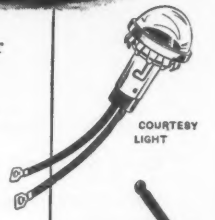
and *Now*—

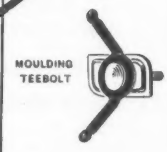


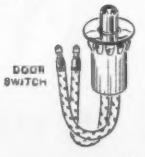
To hand his lady to the curb, after an evening's spin, Grandpa proudly unhooked a side lamp and lighted the way.

Modern "eye for the ladies" is the courtesy light. Automatically it winks on when you open the car door, illuminating the step and the ground beneath. In its convenience, it is typical of a host of small parts — designed and engineered by United-Carr and its subsidiaries — which have helped transform the horseless carriage into the streamlined vehicle of today. Some of the many such devices we are currently supplying to the industry are shown at the right.

"Little things make a big difference" — in cutting costs, speeding production, making finer finished products. Let our design engineers give you the benefit of their specialized experience. United-Carr Fastener Corp., Cambridge 42, Massachusetts.







UNITED-CARR FASTENER CORP.

MAKERS OF DOT *FASTENERS*

comes here in quantities, don't expect prices to soften.

• **Imports Are Vital**—That doesn't mean that the U. S. is unable to buy considerable quantities of various metals abroad. In September, copper and brass mills shipped products containing 126,000 tons of copper. To do this they had to import very nearly 50,000 tons.

September was an exceptionally active month for copper and brass mills—biggest since last January, in fact. Even so, domestic needs have been averaging a good 40,000 tons above actual U. S. output. Thus, imports alone have made possible the consistently high rate of operations which shoved nine months' use above 1,050,000 tons. (That amount is greater than the U. S. used in a full year of boom proportions before the war.)

• **Aluminum**—In aluminum, too, there's a boom. Bureau of Mines figures show that August's 54,953 tons was the biggest monthly output since late 1944. Unofficial trade figures place September, with fewer working days, only a short way behind (53,254 tons). It now looks like the biggest peacetime year ever, with output in excess of 600,000 tons (not counting metal reclaimed from scrap).

Demand, at the present time, is outrunning supply. The industry hasn't been able to keep up, it explains, because of power shortages. This, plus rising costs of production, accounts for the two recent advances of 1¢ a lb. each on aluminum.

NEW STEEL PLANT

Detroit's McClouth Steel Corp., until now a steel finisher, is going into the steel-making business. This week the company said that its $18.5-million expansion job will turn out 30,000 tons of carbon steel ingots a month when it's completed.

At Trenton, downriver from Detroit, McClouth is building electric furnaces, soaking pits, a blooming mill, and finishing facilities.

The company is getting $8-million for the works from customers; Reconstruction Finance Corp. is supplying the other $10.5-million.

Two 60-ton electric furnaces, bought from War Assets Administration, should be in operation by January. Two more are in the cards for later on in 1949.

The only other electric-furnace producers around Detroit are Rotary Electric Steel Co. and Ford Motor Co. Ford produces for its own account. And except for Ford, the only other open-hearth producer is Great Lakes Steel. With the continuing shortage of sheet steel, McClouth figures that, even if the basing-point system makes a comeback, its new plant will give competitors a good run.

FIBERGLAS*
. . . meets the Acid Test

The pump motor on this acid-tank barge is subjected to one of the most severe operating hazards. In the past, frequent and costly motor failures interrupted loading and unloading of the barge. Stoppages occurred when unavoidable motion of the barge caused the lead-lined pipe leading to the pumphouse to spring leaks, spraying the motor and its insulation with corrosive acid. No ordinary electrical insulating material could withstand such a damaging attack.

To prevent these costly delays, the motor was rewound with Fiberglas-base Electrical Insulating Materials. The loading pipe still breaks and the motor still receives acid baths, but frequent motor failures have been eliminated, because now the glass-base insulation in the motor is capable of withstanding the effects of the acid.

Resistance to acid and other corrosive liquids, vapors and fumes is only one of many valuable characteristics of Fiberglas—the ideal inorganic base material for electrical insulations. It is equally effective in resisting heat (both ambient or due to overload), dust, dirt and other abrasive materials. Moreover, it saves weight and space, when used to insulate electric motors.

Even though only normal demands are placed on your electric power drives, you'll find it good insurance to have the added protection of Fiberglas-base Electrical Insulations. To give your old motors new and longer life—specify Fiberglas Rewinds. And to get peak performance from your new motors, specify Fiberglas-base Insulation when you buy. Let us show you complete case study data on how motor life can be lengthened in your plant. Owens-Corning Fiberglas Corporation, Department 803, Toledo 1, Ohio. Branches in principal cities.

In Canada: Fiberglas Canada Ltd., Toronto, Ontario

Electrical insulations of Fiberglas are available in the form of Yarn, Cord, Tape, Braided Sleeving, Cloth, Laminates, Varnished Cloth, Saturated Sleeving and Varnished Tubing, Mica Combinations, Wire and Cable Insulations.

OWENS-CORNING
FIBERGLAS
ELECTRICAL INSULATING MATERIALS

*FIBERGLAS is the trade-mark (Reg. U.S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with glass fibers.

"Mose" and Beulah Harpster, brought up to work and plan, already enjoy the rewards of good farming.

"because it's a swell way to live"

Beulah aims to be as good a cook as her mother-in-law even though her husband "will eat anything."

With this outfit "Mose" also does custom combining, to get more farm mechanization paid for faster.

After their wedding trip to Niagara Falls, Beulah and "Mose" came home to this big old house and lit right in remodeling it. Kitchen, living room, one bedroom have been done over. Only 5 rooms to go.

The best people in the Country

turn to Country Gentleman for Better Farming, Better Living

"Mose" and his dad seem satisfied with the corn situation. "Mose" observes the dairyman's usual rotation of wheat, oats, corn and clover.

"TO BE working for myself! To be buying my own place! To know that what I do is for ourselves! What more could a man want?" asks Gerald "Mose" Harpster, while his attractive young wife smiles agreement.

Home from the war, this dream has brought "Mose" back to the dairy farm near Ashland, Ohio, that he arranged to buy with his parents' help. Newly-wed last June, "Mose," 23, and Beulah, 21, set out to make the dream come true.

The Harpsters are managing their 270 acres with intelligent planning and industry. And they can already see results . . . in a few more Holstein cows—another piece of farm equipment—another room modernized in the solid old 8-room house they are remodeling from cellar to attic.

Today this young farm couple are well on the road to the independence and the good living that hard work can bring . . . all the things that make farming mean to them "a swell way to live."

★ ★ ★

This heart-warming story will strike a responsive chord among all of Country Gentleman's 2,300,000 families—who know that good farming is a certain, satisfying way to a good life. A complete profile of the Harpsters appears in November Country Gentleman as one of the popular "Good Farming—Good Living" family portraits of The Best People in the Country.

Good taste and imagination are beginning to show in the pretty and comfortably furnished living room. Big windows, with curtains by Beulah, look out across a broad lawn and pleasant fields.

Registered Holsteins are the Harpsters' breed. The herd is increased by artificial insemination, milked by electricity. Male calves are sold at birth.

No bride in her right mind lets herself lose interest in clothes. You can't wear just *anything* at the Farm Bureau Youth Council dances.

As if working 270 acres weren't enough exercise, "Mose" plays 3rd base on the Rowsburg softball team, lends a willing hand at home decoration.

2,300,000 circulation concentrated among the "top half" farm families who receive 90% of the nation's entire farm income.

LISTEN TO ELECTION RETURNS
on Tuesday evening, November 2, sponsored by The Curtis Publishing Company over your local Mutual Network station.

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used in over 300 industries

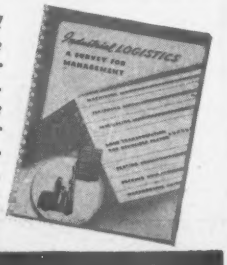
E-P pioneered the paper roll handler.

To solve your materials handling problem, Elwell-Parker offers *unequalled* design and application experience . . . for the last 42 years E-P Industrial Power Trucks have cut costs in *every* major industry.

90% of all Elwell-Parker Trucks sold are *still on the job*—handling materials in volume, with safety, often at tremendous savings. 47 models "tailored" to individual load and production needs. Operated by the *world's cheapest power*—electricity. *Send for your man.*

Scientific MATERIALS HANDLING

fully explained in 44-page free booklet. Ask for "Industrial Logistics". The Elwell-Parker Electric Company, 4535 St. Clair Avenue, Cleveland 14, O.



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Power Industrial Trucks
Since 1906

AVIATION

Clinic Aims to Cure Ills

Delegates to Detroit meeting try to find answers to some of economic troubles. Will urge government to adopt different patent policies on military contracts to provide incentives.

The entire aviation industry has been flying through rough economic air. Alternating currents of fast growth and fast contraction have brought the big bumps in the industry's postwar flight. It started, of course, with the huge expansion of the industry in World War II.

• **Sixth Clinic**—Last week in Detroit, aviation took another hard look at its problems. At the sixth national aviation clinic, 98 voting delegates represented nearly every phase of the business. Included were the major airlines, Air Force and Naval Aviation, feeder airlines, air-freight interests, manufacturers of aircraft equipment and accessories, airport operators, aviation schools, state and federal aviation agencies, and consumer groups.

The clinic operated like a unicameral legislature: Delegates presented bills of policy for the group to act upon. More than 100 such bills were brought up during the session's three working days; only a few were rejected.

• **Patent Policies**—One of the most important bills had to do with the federal government's patent policies. Recently, several contractors have complained that the government has been getting more and more insistent on keeping patents on items that it buys from industry. So the clinic proposed this new four-point federal policy on aviation patents and procurements:

(1) The government would get no rights to inventions which required no research or development but which were included in articles that it bought on ordinary procurement contracts.

(2) Research and development contracts would not give the government rights to other company inventions which the company had begun to use before the contract became effective.

(3) Rights on inventions which the company makes in the normal line of its business remain with the company. This would be true even though the invention is made during the course of a research or development contract.

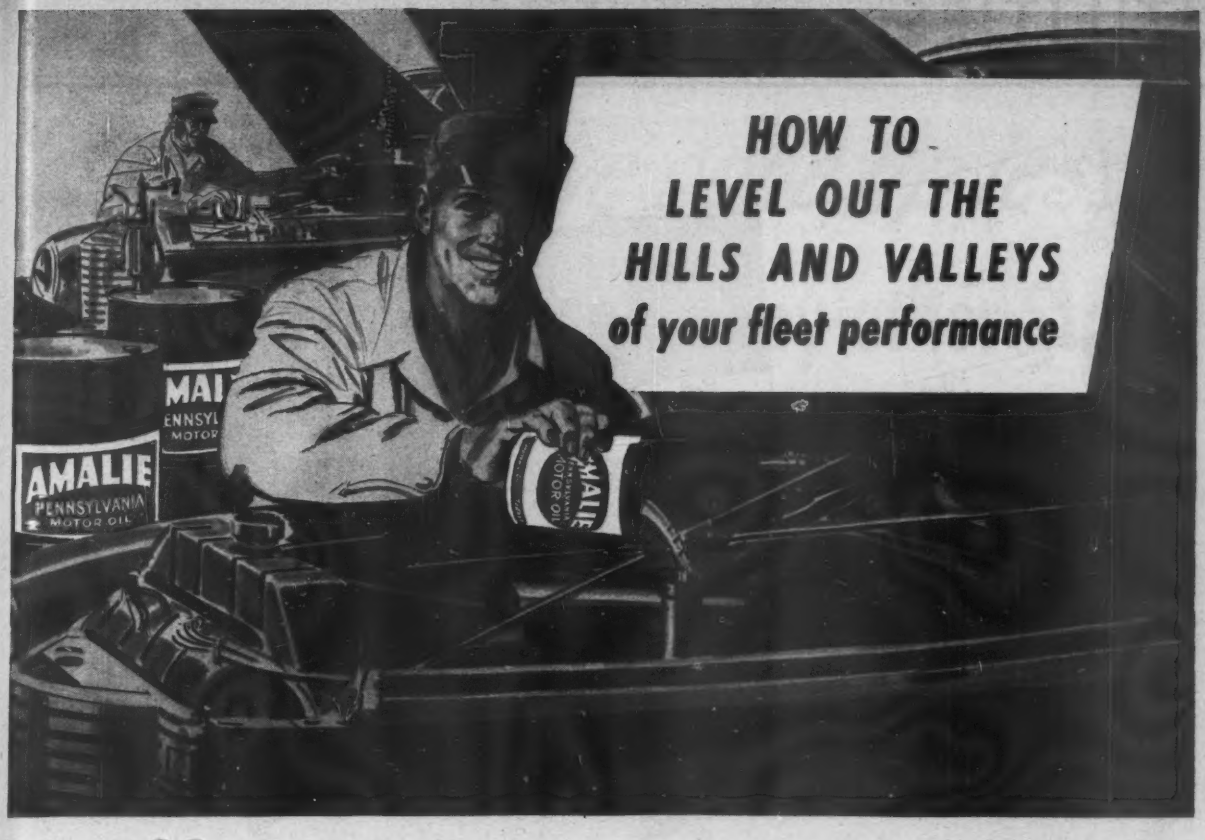
(4) Rights in inventions developed under such contracts, but which are not in the normal line of business, shall be subject to negotiation before the contract is signed.

The preamble to the bill says that a policy like this is a must: Without it, established aviation companies would not have enough incentive to stay in the field, and new companies wouldn't enter it. What's more, new companies are needed in the industry to provide a necessary source of supply for military aviation needs.

• **Subsidy Sought**—Another important move at the clinic was the vote—without dissent—to ask Congress for a subsidy to help pay for development of advanced transport-plane prototypes. These funds are sought for four specific types: large cargo planes, large passenger planes, small feeder-line planes, and multiengine, jet-powered transport planes.

For Foto-Flyers

Western Air Lines teamed up with General Electric Co. to help put over photographic contest. For the benefit of passengers competing for the $5,500 worth of prizes WAL is offering, each of WAL's Convair airliners is equipped with a General Electric model PR-1 photographic exposure meter. Stewardesses, trained by GE, instruct their camera-toting passengers in meter operation. When its contest is over, Dec. 1, WAL expects to have some nifty promotional shots of its air facilities. And GE metermen see a welcomed publicity boost for their exposure meter.



HOW TO LEVEL OUT THE HILLS AND VALLEYS of your fleet performance

When lay-ups for repairs bedevil your fleet schedules, you might look to a sometimes *overlooked* source of the trouble: *Lubrication.*

In the shops of many of the country's busiest fleets of trucks, buses and cabs, they know from experience that AMALIE Pennsylvania Motor Oils and AMALIE Greases are *right* for *their* kind of service. Because AMALIE is *oilier* oil, it gives longer-lasting protection to vital engine parts – cradling those bearing surfaces in a strong, tough, corrosion-resisting film that laughs at heat and friction.

There is a type of AMALIE Motor Oil for every service (diesel or gasoline-powered – regular, extra-duty or heavy-duty operation) and a complete line of high-quality greases. They're tops for your family car, too!

The better performance and economy which AMALIE delivers are typical of many Sonneborn products – used in chemical processing, drug and cosmetic manufacture, building construction and maintenance, textile processing, other diversified fields.

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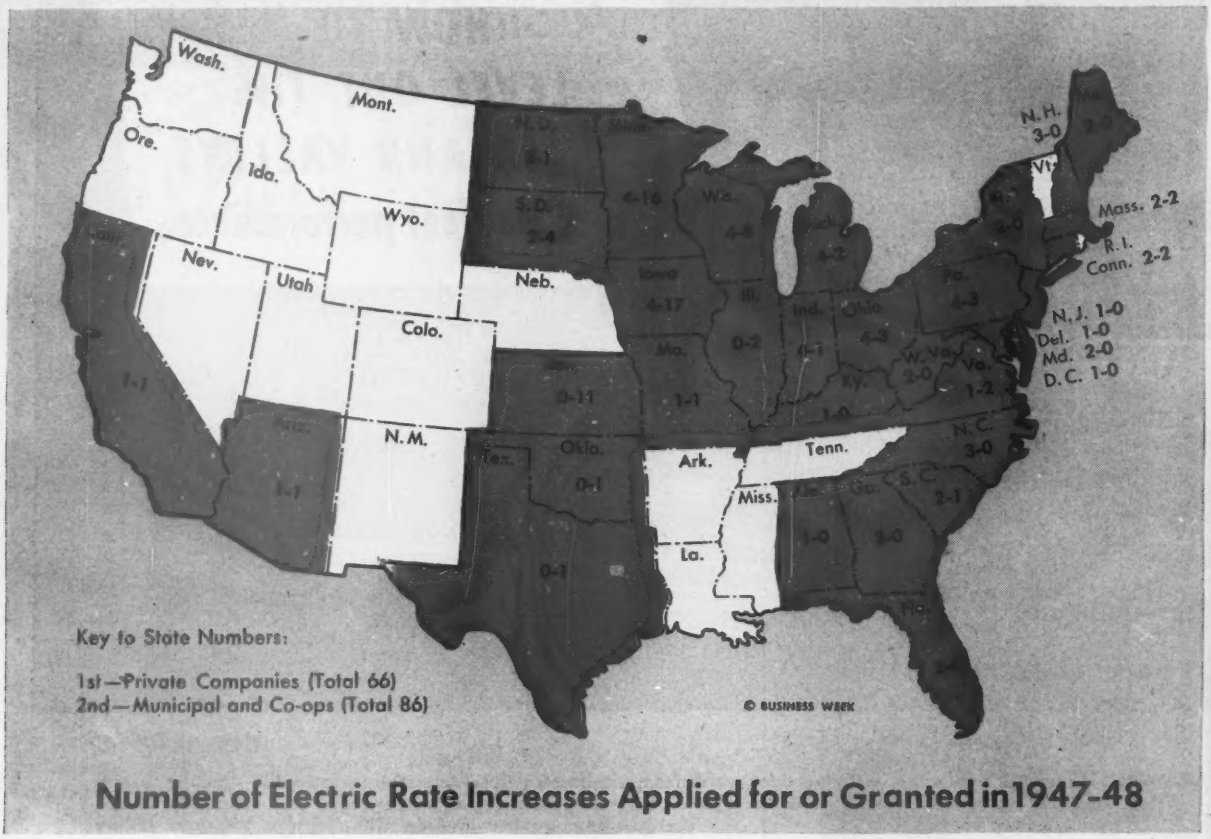


Number of Electric Rate Increases Applied for or Granted in 1947-48

Rate Boosts Spread Across the Map

Cost of electricity moving up again after postwar drop. Big reasons: third-round wage increases; high cost of new capacity.

One of the things most on businessmen's minds these days is costs. Their steady rise since the end of the war has made them industry's biggest problem.

• **Exception Ends**—There was one cost item that failed to rise after V-J Day—even went down for a while. That was electric power. But that day is over. Power rates started up in a few scattered localities about a year ago (BW—Dec.20'47,p31). And the trend has slowly gathered momentum all over the country.

That's not to say there has been any mad rush to the state regulatory commissions. There hasn't been—and the experts don't think there will be. Nevertheless, a survey this week showed that 64 privately owned electric utilities had sought rate boosts during the 21 months from January, 1947, through September, 1948. (Two of them applied in each of two states, making a total of 66 applications.)

The validity of the pleas—and the attitude of state commissions toward the problem—is indicated by the fact that 53 of the 66 applications had been granted by Sept. 30; none had been turned down.

In the same 21 months, 86 publicly owned systems increased their charges. They don't have to ask permission.

• **Faster**—The tempo has been steadily increasing. About 80% of the private-utility rate rises were either asked or granted this year; about 40% in the third quarter alone. And in recent months the tendency has been to ask for out-and-out rate boosts, rather than merely "revenue increases," such as elimination of discounts or introduction of fuel clauses (BW—Jul.3'48,p34).

Of the 64 private rate-rise requests surveyed, 28 affected all classes of service. Of the latest 15, 6 were across-the-board.

Where figures are available, they show the increases ranging all the way from 2% to 19%.

• **Reasons**—Collapse of last spring's resistance to third-round wage increases throughout industry is the reason most often cited by experts for the rush of rate-boost applications. For one thing, it raised the utilities' own wage bill. More important, it raised the cost of the things utilities buy—particularly fuel and transportation for fuel.

Another factor that looms large in the experts' thinking, although it's harder to demonstrate, is the need for higher earnings to carry the increased investment utilities have to make in new plant.

Back before the war, there was a utility rule of thumb that it cost about $100 per kilowatt of capacity to build a new steam plant. Today the figure is nearer $185. There's quite a difference between having to earn 6% on $100-a-kw. capacity in a time of stable costs

Independent study by THE TAX FOUNDATION shows:

State Taxes *have gone up less* in Pennsylvania than in any other State!

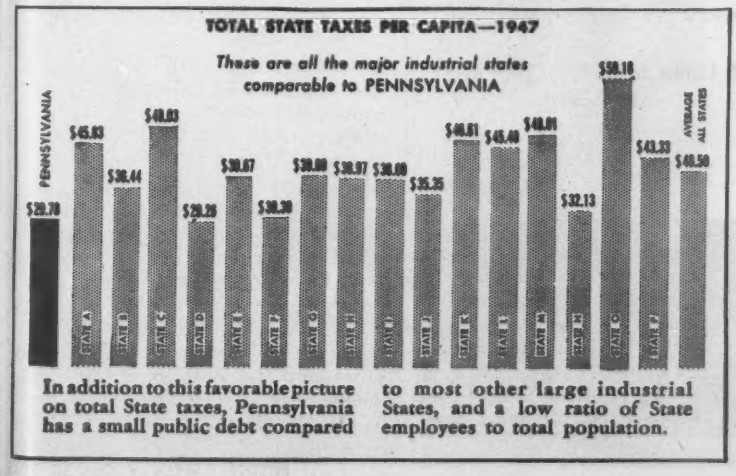
The Tax Foundation of New York, an independent, non-profit research organization, has recently issued a 99-page report entitled, "Recent Trends in Major State Taxes—1941 to 1947." It reveals many amazing facts about the relative tax burden in various parts of the country, two of which are shown in these charts.

Among other things it shows that Pennsylvania is one of the lowest tax States in the nation.

Locate one of your plants in the midst of these favorable circumstances.

35 States reported increases of 50% or more. Of these, 12 showed increases of 90% or more. One State raised its taxes 148%.

*The Tax Foundation's study purposely excluded unemployment compensation taxes. (Pennsylvania has a very favorable merit rating system on unemployment compensation.)



In addition to this favorable picture on total State taxes, Pennsylvania has a small public debt compared to most other large industrial States, and a low ratio of State employees to total population.

Send for a free copy of the booklet showing the results of the tax survey report.

COMMONWEALTH OF

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JAMES H. DUFF
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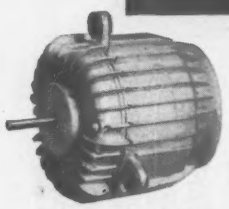
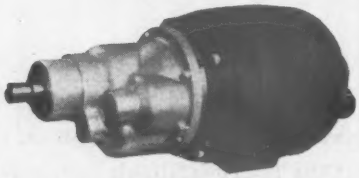
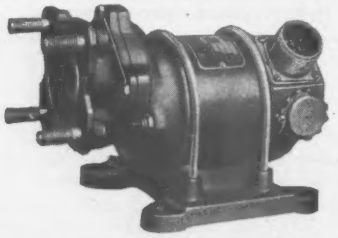


An outstanding hair dryer motor. Design insures quiet, vibrationless operation.



Light-weight universal motor with efficient spur gear speed reducer.



Base-mounted, explosion-proof aircraft geared fuel transfer pump motor.

• Long, trouble-free operation — a characteristic of Lamb Electric Motors—results from the quality of engineering, manufacturing and inspection developed in our 34 years' experience in the small motor field.

Their high standard of dependability is one of the reasons why Lamb Electric Motors are going into more and more of America's *finest* products.

THE LAMB ELECTRIC COMPANY
KENT, OHIO

and having to earn that 6% on $185 capacity in an inflationary period. So, as the demand for more and more plant expansions continues (BW—Oct.23'48, p19), more and more rate increases are bound to follow.

• **Long Way to Go**—With all this, the industry has a long way to go before rates get back to the 1945 level. The biggest one-year crop of rate reductions in history came in 1946. There were several reasons:

EXCESS-PROFITS-TAX REPEAL boosted utilities' net after taxes above the "fair return" level in many cases.

LOW MONEY RATES made it possible to refund outstanding bond and preferred-stock issues at a considerable saving in annual fixed charges.

A BIG RISE IN SALES of power cut the average cost per kilowatt-hour.

But none of these conditions apply any more. Tax cuts are pretty much out of the question for years to come. Money rates have firmed. And the continued rise in sales is no longer so much of a money-saver, because it costs more to make the juice.

• **Geographically Speaking**—The rate boosts by private companies so far are mostly in areas where cost of fuel—and, often the cost of transporting it—are major factors. Geographically, 45 of the 66 increases came in the northeast and north-central states, from Maine to North Dakota (map, page 44).

Coal is the chief power source in this area, and coal costs are way up. Besides, only a few of these states are coal producers; New England, Minnesota, and the Dakotas are examples of states where the higher cost of bringing the coal in has had a major effect.

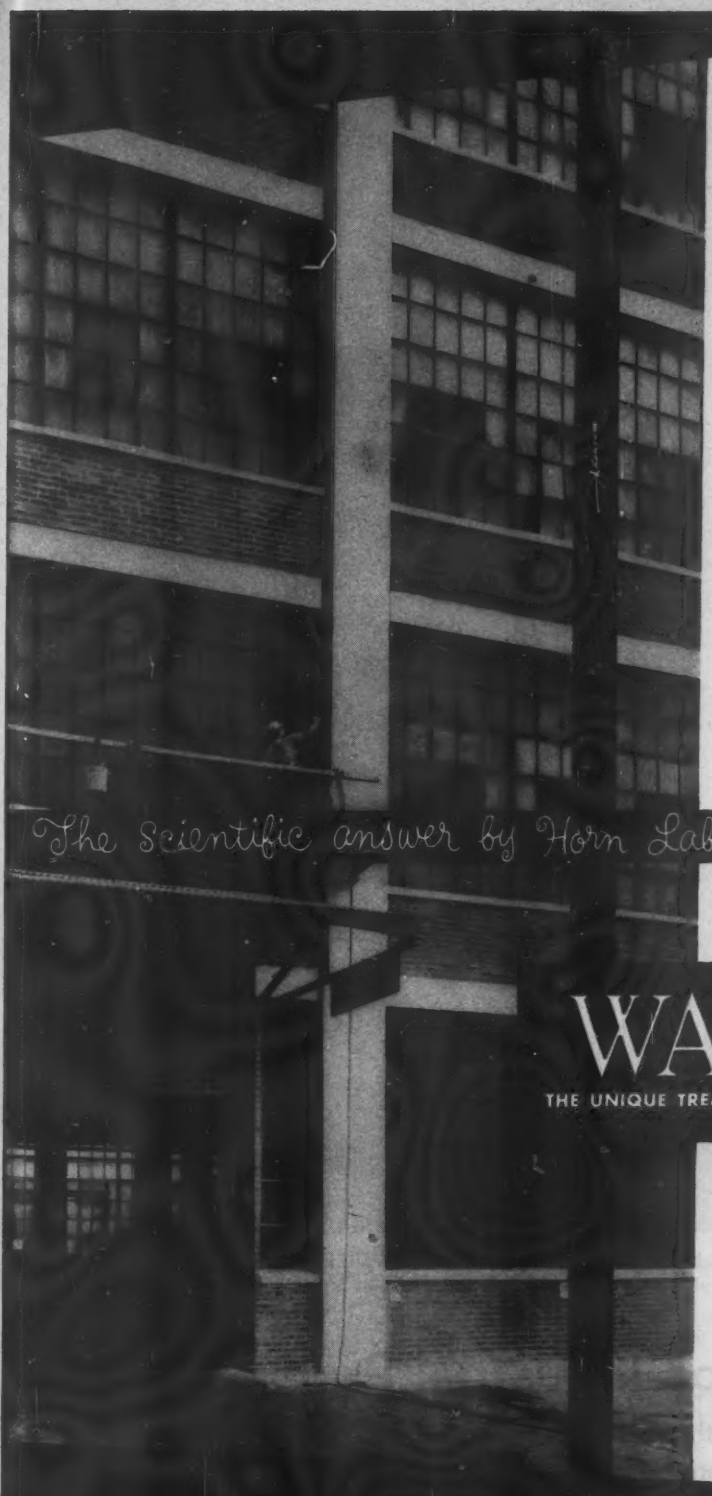
• **The South**—Of the remaining 19 increases, 17 came in the Southeast. Coal cost is important in part of this area too; the price of fuel oil is also a big factor, particularly in Florida and Georgia. Two other things may have had an important effect in the South:

(1) Many companies that have relied on hydro power are running out of new sites; so they have to install high-cost steam capacity as demand rises.

(2) The South has been striving hard for industrialization; it has powered the new industry with electricity sold at low industrial rates.

• **The West**—The only two increases sought in the West are readily attributable to the price of fuel oil.

There is one big area, from Texas to Washington, where no boosts have been asked by private utilities. In part of this area, the major fuel is natural gas, which has not risen so much in price as other fuels. In another large section, the major "fuel" is falling water, which doesn't cost anything. And competition from public power is a big factor, particularly in the Northwest.



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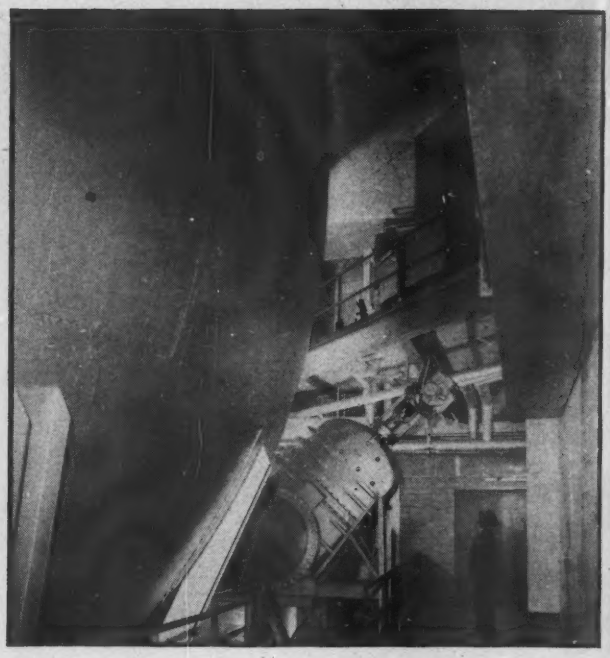
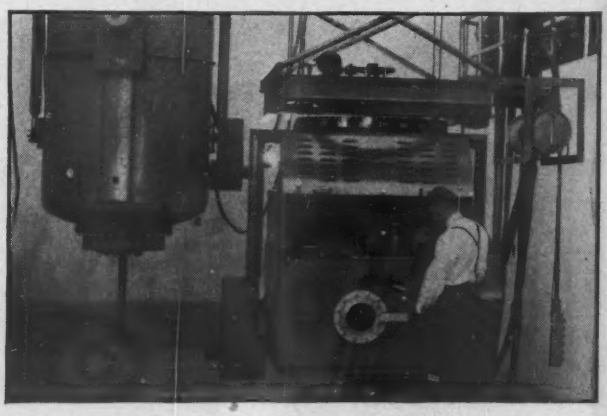
PRODUCTION

CAPTURED GERMAN WIND-TUNNEL used in V-2 development will help Navy Ordnance engineers make better weapons. It gets its high-speed airstream from a . . .



VACUUM SPHERE, 52 ft. in diameter, which furnishes the "pull" for the wind tests. When the vacuum is broken, air rushes into the sphere through the tunnel

TUNNEL-LIKE ROOM will be used to simulate free-flight conditions. The model will be fired from a special gun emplacement while 50 cameras record its behavior in flight



MOBILE BETATRON provides 10-million-volt X-rays, will give Navy Ordnance technicians a peek through 16 in. of steel. Such work done in . . .

Navy Research Helps Industrial Progress

Ultramodern laboratory, staffed with civilian experts, investigates acoustics, magnetic materials, supersonics, and testing methods.

Can weapons research pay off in terms of industrial progress? If you ask the Navy, the answer is "yes."

• **Demonstrations**—This week, as part of its Navy Day celebration, the top brass was busy giving industrialists on-the-spot demonstrations of ordnance research at work. This took place at the nearly completed Naval Ordnance Laboratory near White Oak, Md. Civilian experts, working under Navy Bureau of Ordnance sponsorship, talked about the new basic developments which they have under study. From them, the visiting firemen got some eye-opening ideas on acoustics, vibration effects, supersonic effects, plastics, nondestructive testing.

Of course, the Navy's basic aim in its study of such subjects is better weapons. But the knowledge it collects is available to industry.

Here's how industry ties in right now. NOL develops basic concepts, makes the "breadboard" models, sets up the proper evaluating techniques. But it can't manufacture in any quantity. So it farms out that part of the work to civil-

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THAT'S testimony you'll hear—often—from industrial truck operators who know the difference. And it's a preference that means profits for owners too. For it springs from the money-saving principle of *battery-electric* drive itself, from its trouble-free simplicity, its smooth controllability, its *constant dependability*.

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Precise, Finger-Tip Control for fast, accurate maneuverability that minimizes operator fatigue and makes for steady, sustained tempo of useful work.

Floor-Hugging Stability—the safety that operators "feel" in handling battery-powered trucks when loads are lifted to heights common today.

Clean, Silent Power Source. Excellent working conditions for operators and others in all interiors.

In the MATERIAL-HANDLING HANDBOOK you will find a wealth of practical, money-saving ideas from the experience of electric truck users. Your letter will bring it, free.

THE ELECTRIC INDUSTRIAL TRUCK ASSOCIATION

29-28G Forty-first Avenue, Queens Plaza, Long Island City 1, N. Y.

real "Trim"

for users and fabricators

Glistening mirror-finish is the appeal of stainless steel in this picture. But the fabricator has all the best of it. You see, it's CMP's new bright annealed 18-8 Thinsteel. Supplied in dead soft temper where desired, with a mirror-like finish (an exclusive CMP product), it lowers fabricators' finishing costs by eliminating or reducing the polishing or buffing operations commonly employed to "bring up" the finish. This lustrous chrome-nickel strip can be drawn into intricate shapes or rolled into bright corrosion resistant mouldings or other decorative or functional parts without the necessity for subsequent costly surface finishing. We'll be glad to send you a sample.

THINSTEEL
TRADE MARK

LOW CARBON
SPRING STEEL
ALLOY GRADES
STAINLESS

CMP
STRIP STEEL

the Cold Metal Products co.
YOUNGSTOWN, O.

NEW YORK • CHICAGO • DETROIT
ST. LOUIS • BUFFALO • INDIANAPOLIS
LOS ANGELES • SAN FRANCISCO

ian contractors, helps them set up the jobs and get the "bugs" out of the mass-production line, sends out researchers and engineers to lend a helping hand.

• **Mobile Betatron**—Right now there's plenty going on in NOL's plush 1,000-acre setup. For instance, the lab has acquired a mobile betatron, that produces 10-million-volt X-rays, (picture, page 48). It will "look through" 16 inches of steel, study complex internal assemblies, make X-ray shadowgraphs that show stresses, strains, and shocks.

Other testing equipment and methods are used to develop evaluation techniques—the "preventive medicine" of manufacture. The Navy scientists have metallography devices that help them explore the makeup of materials, millionth of a second X-ray photographic equipment that lets them picture instantaneous changes in a specimen under stress, new methods of using radioactive materials for testing.

• **Wind Tunnel**—Another big tool is the "super deluxe" wind tunnel setup. It is giving new data on shock waves, and on the efficiency of aerodynamic shapes. The setup includes the German "vacuum" wind tunnel that helped develop the V-2 rocket. This is connected to a huge sphere 52 ft. in diameter, made of welded steel (picture, page 48).

The sphere is hooked up to the suction side of a bank of heavy-duty air compressors. These pull the air from the sphere and make it a huge vacuum bottle. The tunnel in which models are tested is connected to the sphere through quick-acting valves. When these snap open, air blasts into the sphere.

• **How It's Used**—On the way in, the air passes through a nozzle which builds it up to tremendous speed in two ways. First, by constricting the air flow, the nozzle gets the air rushing at the speed of sound. (That's called Mach No. 1). Then, as the air passes out, the shape of the nozzle causes it to give up heat energy. This heat loss causes a further speedup, so that when the air flow reaches the model on its way to the vacuum sphere, it approaches speeds up to Mach 4.5 (four-and-a-half times the speed of sound). It is expected to reach twice that speed eventually.

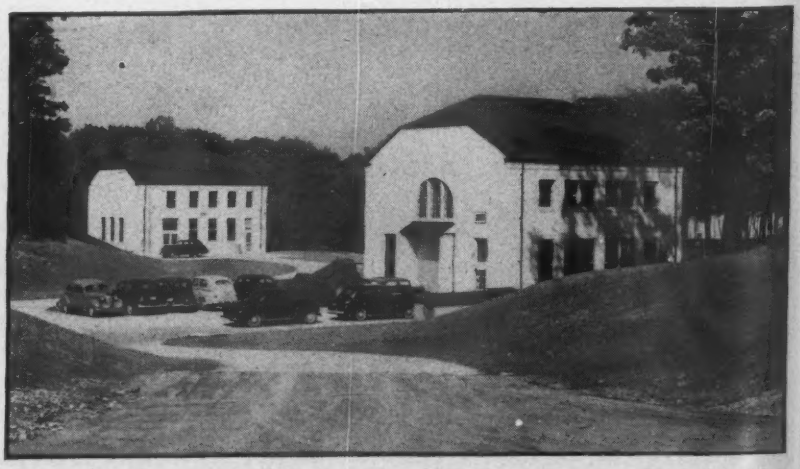
Using that equipment, the Navy researchers can now get data on the best streamlining shapes for minimum wind resistance. They supplement tunnel work with "Schlieren" pictures (taken during the wind-tunnel test) that show the pattern of airflow over the model. Also, they study "flight" tests made in two long rooms (picture, page 48). In one room, the model is shot through a 300-ft. pressurized tube; in the other, the model is fired from a gun and is allowed free flight. In either case, 50 cameras take a series of pictures to show what happens during the flight.

• **Plastics**—The laboratory has a complete plastics production setup. There are facilities for compounding materials as well as machines for all types of molding operations.

The Navy is making real progress with resin-pulp mixtures. Considerable work is also being done with laminates built up of fibrous glass sheets bonded with resins, such sheets are laid up over plaster forms, become high-strength bomb housings or mine cases. Since there is no metal involved, built-in electromagnetic devices like fuses and directional mechanisms can't be affected.

• **Insulation, Shock Resistance**—The plastics researchers have developed some new ideas on compounding molding resins to produce certain strength characteristics in the finished part. They also are making progress in molding plastics around delicate electrical assemblies. In one shot, this technique can assemble all the electrical components, lock them in proper position, and provide an insulating housing.

NOL's engineering department setup



NONMAGNETIC BUILDINGS, like these at NOL's new laboratory, allow technicians to study magnetic effects, develop new types of magnetic weapons

Our name up here among the great will impress the trade, eh, Judson?

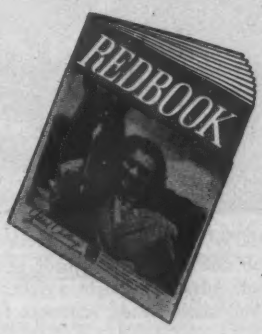
Judson: Yes, sir! This is a very famous museum—think of the prestige!

Even *our* budget can stand the cost of making these shields—

Chairman: But, Judson! Our budget can't stand *anything* that won't pay off in sales! Do you expect this to build up a steady, strong demand among our dealers?

Judson: Well—

Chairman: I know that our budget is limited, but we can't afford to kid the trade. Stunts like this—or one-time shots in big circulation—are all in the same class. They aren't in it with a month-in-and-month-out campaign in a magazine like REDBOOK, where we can tell our story to nearly 2,000,000 families all over the country every month in the year for $52,800.



You won't go wrong following the lead of people like Alexander Smith, Studebaker, Gilbeys, Absorbine, Jr., or Colgate, just to mention a few who are keeping these young REDBOOK families on their side. They know that they have SEVEN BILLION DOLLARS to spend, after taxes. They know that REDBOOK families have a record of becoming regular buyers of the kind of products they see advertised in REDBOOK.

Dust those museum cobwebs out of your mind, Judson. Come back to the office and send an order to REDBOOK. We want advertising that *sells*.

REDBOOK

McCall Corporation
444 Madison Avenue, New York 22, N. Y.

Give these eye-opening facts on power systems to the men you depend on for savings

Up-to-the-minute 'Pack of Facts' points way to many plant economies

Are all the men in your plant responsible for savings fully aware of the difference that modern *plant power distribution* can make? Do they know how it affects plant layout...productivity...costs? Get the latest facts to them *now!*

IT'S EASY—General Electric, as a service to industry, has prepared the facts for you in visual terms that are easy-to-take...linger in the memory.

Here's what the power distribution program offers:

1. **A fact-packed manual** providing up-to-the-minute data on plant power distribution. Objective, *without sales bias*, it helps solve your power problems.
2. **A slidefilm with sound** that tells what load-center distribution is, and what it does. It aids the men who run your plant make money-saving decisions.
3. **Fully illustrated highlights booklets,** for individual study and review.

Convince yourself first—

We'd like you to examine the *Load Center Power Distribution Manual* without charge or obligation. Just use the coupon below.

Showings Cost You Nothing—With your manual, we'll tell you how to arrange for a FREE slidefilm showing.

Put these facts into the works—and watch them work for you.

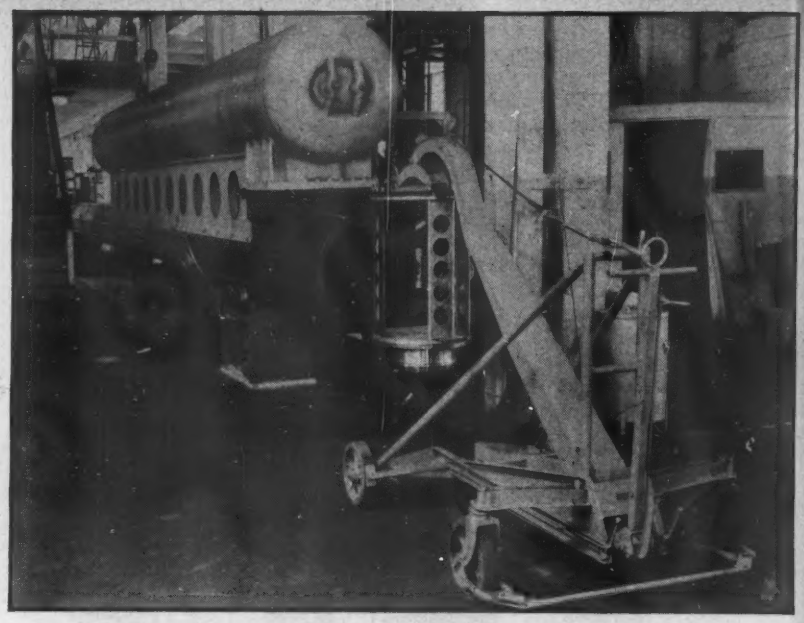
FREE
TO BUSINESS MANAGEMENT

Attach to your business letterhead

General Electric Co.
Section A684-4
Schenectady 5, N. Y.
Please send me a sample copy of the G-E *Load Center Power Distribution Manual* without cost or obligation, with details on how I can arrange a FREE SHOWING of the film. (Extra copies at regular manual price—$1.00.)

Name_____ Title_____
Company_____
Street_____
City_____

GENERAL ELECTRIC



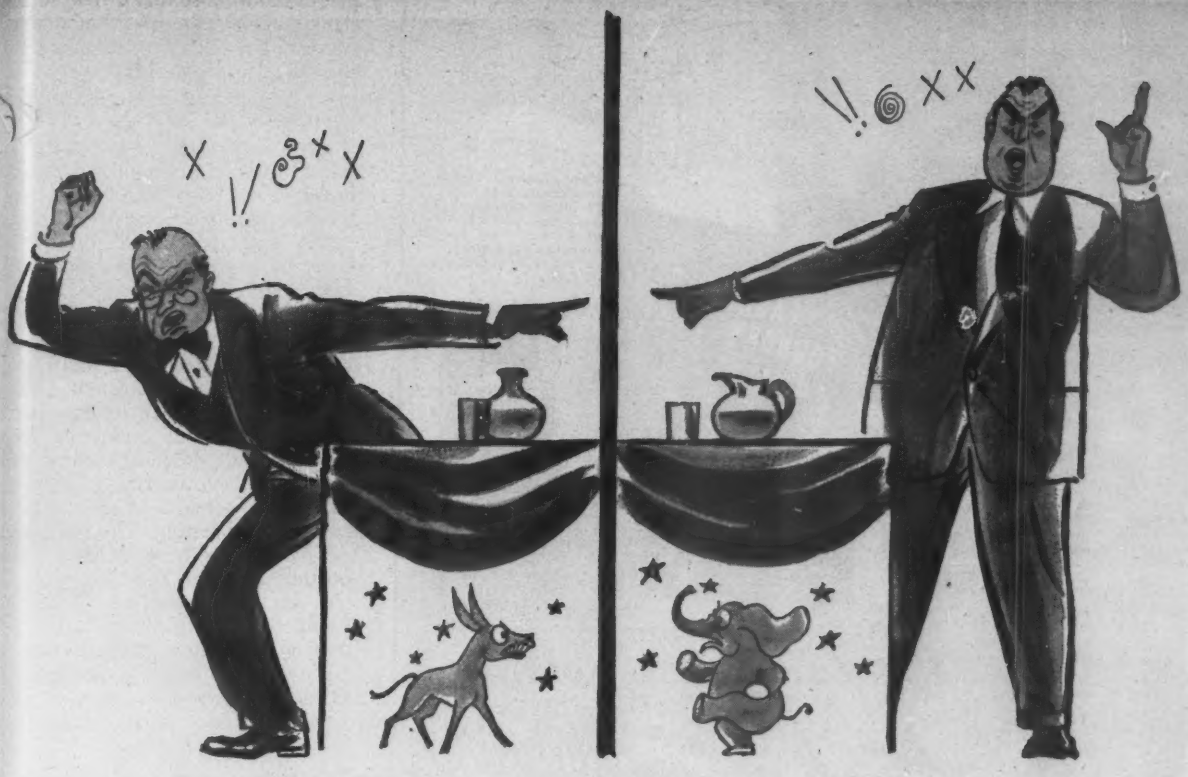
COMPRESSED-AIR GUN "shoots" intricate assemblies, gives the parts under test sudden acceleration, and this checks shock resistance

has come up with valuable data on how to mount delicate mechanical and electrical systems so as to get a maximum of shock resistance. They develop such data by using a huge "popgun" (picture, above) in which built-up air pressure is suddenly released, accelerates the test part over a controlled distance in a long tube, then brings it gradually to a stop. The acceleration can be raised to 20,000 times the force of gravity. After that test, the mechanism is still expected to work.

• **The Brains**—These are some of the things the Navy showed this week. But the organizational setup and facilities of the "brains" department at White Oak also drew considerable comment. In brief, the NOL is set up in three main divisions:

RESEARCH, headed by Dr. L. H. Rumbaugh. This department sets out to solve a basic problem in ordnance. It looks into fundamental principles that might be applied, builds up a typical model. (For instance, it went to work on the matter of acoustic firing of torpedoes. That meant determining the sounds made under the sea by marine life, then developing princi-

PLASTICS KNOW-HOW, applied in the Bureau of Ships, has resulted in a 28-ft. speedboat hull molded all in one piece. It is made of low-pressure polyester resins reinforced with a fibrous glass mat. Advantages: light weight; 90% saving in construction time over wood; elimination of hull maintenance; resistance to deterioration



Uncle Joe's boys couldn't possibly understand an American election

Imagine having the RIGHT to vote in the first place!

Imagine a secret ballot, moreover—no one to tell you how to vote, no one to check up on you.

Imagine the luxury of opposing candidates, and having your free choice of them after a whoop-de-doo campaign that may generate some heat, but also throws plenty of light. Even more strange, imagine a press and radio that fully report the sayings and doings of *both* sides.

The ordinary citizen of the Soviet doesn't dream that such things exist. He isn't told about them, and he's not allowed out to see. That wouldn't be safe for Uncle Joe.

But it won't be safe for *us* ever to forget that free elections are the foundation of freedom itself. Your right to vote is a very precious privilege, because it guarantees that the will of the majority shall prevail. Without it, you have no rights of any kind—if a small but powerful minority wanted to take them away from you. Any of Uncle Joe's boys could tell you how *that* works.

COLUMBIA STEEL & SHAFTING COMPANY

Specialists in the cold finishing of steel bars and shafting

DIVISIONS

SUMMERILL TUBING COMPANY ★ EDGAR T. WARD'S SONS COMPANY

Manufacturers of precision cold finished seamless steel tubing — National Distributors of cold finished steel bar and tubing products

PITTSBURGH 30, PENNSYLVANIA

Branch Offices: Boston • Buffalo • Cedar Rapids • Chattanooga • Chicago • Cincinnati • Cleveland • Dayton • Detroit • Hartford
Los Angeles • Milwaukee • Newark • Philadelphia • Pittsburgh • Rochester, N. Y. • San Francisco • Seattle • Syracuse

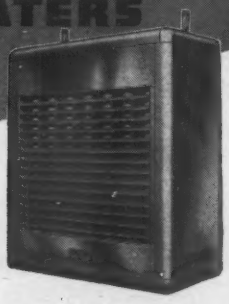
Here, Janitrol Unit Heaters are mounted in the air-conditioning duct-work. Out-of-the way, they require no floor space, or room for storage of fuel.

Whether FASHION SHOP OR FOUNDRY . . .

In this foundry, Janitrols add the necessary spot heating in cold weather to provide better working conditions

For comfort or utility

Janitrol GAS-FIRED UNIT HEATERS provide proved performance



Of course, the heating requirements of milady's dress shop are entirely different from that of a foundry . . . yet both are getting the kind of heat they want . . . when they want it with Janitrol Unit Heaters. In thousands of varied commercial and industrial installations, Janitrol Unit Heaters are providing automatic, dependable heat for customer comfort . . . to improve working conditions, or to protect warehoused goods.

For complete, spot or auxiliary heating in old or new buildings, Janitrol Unit Heaters are economical to install, to operate and maintain. There's a complete line of models for all types of gases including LP-Gas. If you are planning on building, or remodeling, or your present heat is inadequate, ask your qualified Janitrol Dealer for a free heating survey . . . he is listed in the classified section of your local phone directory.

Janitrol A PRODUCT OF

SURFACE COMBUSTION CORPORATION • TOLEDO 1, OHIO

ples of acoustics so that certain sound waves could be translated into electrical impulses. These impulses are then used to fire a fuse.)

ENGINEERING, headed by Dr. Royal Weller. Engineering, according to Weller, is the "hardware" department. It takes the basic principle and breadboard model, tries to design it into a manufacturing practicality. In other words, it adapts research's basic principle and engineers it into something useful.

TECHNICAL EVALUATION, headed by Dr. Donald E. Marlowe. This division believes nothing about a product of the Engineering or Research departments until it tests it. Its experts set up techniques for evaluating each product, using the most modern testing equipment available. They try to simulate actual field conditions as part of their testing. The evaluation program not only serves as a check on the practicality of a design, but it also sets up key tests for use on the production line. Such tests assure uniformity of quality and performance —a must with ordnance equipment. Out of the division's work will come new concepts of product testing for industry generally.

• **The Experts**—The overall activity is headed up by technical director Dr. Ralph D. Bennett (picture, below). Bennett, a cosmic-ray expert who likes to work standing up at his four-ft.-high desk, teams up with the Navy head of the lab: Rear Admiral Frank E. Beatty (picture, page 56). In addition to being engineer-trained, Beatty is a line officer. Most of the other Navy personnel at the $40-million brain-center are also line officers. Battle experience has

COSMIC-RAY EXPERT: Dr. Ralph D. Bennett is the civilian "brass" at the laboratory, works standing up at a kingsize desk

All our salesmen have 4 hands

Two Hands to Close the Sale—And Two to Back It up Over the Years

"Down time" for an oil man often runs into hundreds of dollars lost for each hour his equipment is not producing.

Anywhere in the oil lands of this country, an Ideco customer can get a message phoned to an Ideco service dispatcher in California, Texas, or Ohio and receive service help in a matter of hours.

Any Clark customer, anywhere in the U. S., can get a message to the Clark service points in New York, Oklahoma, or California and have service in from twelve to twenty-four hours.

Any customer of Pacific Pumps can call stores in 44 cities and nine states and it is not unusual for Pacific to get a repaired pump back to the distressed well so fast the crew will not have completed the necessary preparations for installing it.

A manufacturer's leadership within an industry can be measured by how able a servant he is to that industry.

BOVAIRD & SEYFANG Mfg. Co.
Bradford, Pa.
BRYANT Heater Company
Cleveland, Ohio; Tyler, Texas
CLARK Bros. Co., Inc.
Olean, New York
DAY & NIGHT Mfg. Co.
Monrovia, Calif.
DRESSER Mfg. Division
Bradford, Pa.
DRESSER Mfg. Company, Limited
Toronto, Ont., Canada
INTERNATIONAL Derrick & Equipment Co.,
Beaumont & Dallas, Texas; Torrance, Calif.;
Columbus, Marietta & Delaware, Ohio
KOBE, Inc.
Huntington Park, Calif.
PACIFIC Pumps, Inc.
Huntington Park, Calif.
PAYNE Furnace Co.
Beverly Hills, Calif.
ROOTS-CONNERSVILLE Blower Corp.
Connersville, Ind.
SECURITY Engineering Co., Inc.
Whittier, Calif.
STACEY BROS. Gas Construction Company
Cincinnati, Ohio
Stacey-Dresser Engineering Division
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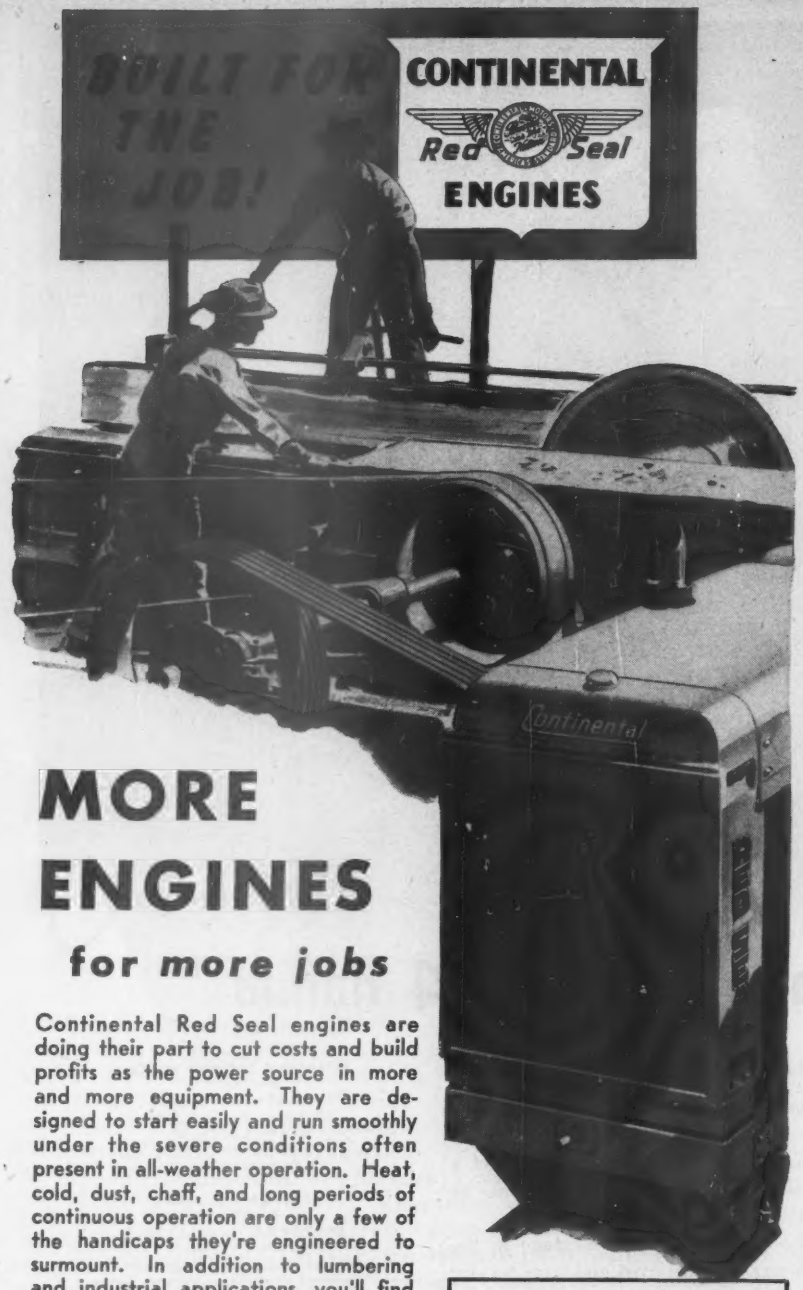
THE ONLY COMPANY DOING AN OVER-ALL JOB—

From well to refinery
for the Oil Industry—
From source to home appliance
for the Gas Industry

DRESSER INDUSTRIES, INC.

TERMINAL TOWER • CLEVELAND 13, OHIO



MORE ENGINES

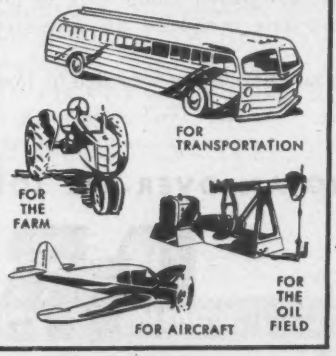
for more jobs

Continental Red Seal engines are doing their part to cut costs and build profits as the power source in more and more equipment. They are designed to start easily and run smoothly under the severe conditions often present in all-weather operation. Heat, cold, dust, chaff, and long periods of continuous operation are only a few of the handicaps they're engineered to surmount. In addition to lumbering and industrial applications, you'll find them in many leading makes of industrial and highway trucks, power shovels, compressors and other equipment.

Red Seal engines are also available as power units for pumping, sawing, generating current, hoisting, and other applications. Let us send you the name of the nearest Continental Red Seal engine dealer. He can not only supply you with the Red Seal engine built for your job, but as part of Continental Motors' nation-wide service network, back you up with parts and repairs.

Continental Motors Corporation
MUSKEGON, MICHIGAN

46 Years' Specialized Experience Building Engines for Transportation, Industry, Aviation and the Farm



FIGHTING ENGINEER: Rear Admiral Frank E. Beatty is the Navy leader of the new ordnance laboratory

taught them what to expect of ordnance, helps them assess, guide, and encourage the work of the civilian technicians working at the lab.

The Naval Ordnance Laboratory is an activity of the Navy Bureau of Ordnance. Besides working with the other BuOrd labs, it cooperates with the Office of Naval Research, and other departments of the Navy. It also works with Army and Air Force researchers when problems of mutual interest are involved.

WESTERN INDUSTRY FILL-IN

Industry expanded so fast in the West in the past decade that it has been difficult to classify and appraise it accurately. Chambers of commerce have done what they could to keep track of new industry. But their business directories are too local, often too general, to be useful.

Chemical Engineering, a McGraw-Hill publication, has now filled part of this void: It has just published a comprehensive directory of producers of prime chemicals in the eleven western states.

The directory reveals that 245 firms operating 300 plants in the West produce almost 500 different prime chemicals (as distinguished from compounded chemicals). Interestingly enough, two-thirds of the companies have their headquarters in the West. Tonnage-wise, sulphuric-acid output tops other chemicals in the region—750,000 tons last year, or 7.1% of the U. S. total.

Firms and their plant addresses are listed alphabetically by products. The directory is a useful tool for chemical processors, jobbers, equipment manufacturers and suppliers, mining companies and advertising agencies.

WHO'S the boss here in America?

the President? NO!

... the Cabinet? NO!

... the Generals? NO!

... Congress? NO!

... me? YES!

Democracy always gets right back to little old ME! That's the good thing about it. It happens once a year on Election Day. *That's when I decide who's going to run things for me.* This year, a Presidential year, in critical times, is particularly important. It's my turn to take over... and decide... in the voting booth... next Tuesday.

BEECH-NUT PACKING COMPANY
CANAJOHARIE, NEW YORK

This is one of a series of advertisements published by The Beech-Nut Packing Company in foreign language and other New York newspapers just prior to Election Day. These ads urge people to vote and emphasize the importance of each individual voter as the very foundation of freedom and democracy.

For an inside track to the Big Family Market . . .

Success is a

HOUSEHOLD

Word!

Yes, the BIG families are waiting when Household comes to town. Three-fourths of HOUSEHOLD reader families average 2.3 children each!

That these bigger families buy more goes without saying. More important to you, Household families buy far more for the home! Seventy per cent are *home-owners.* They *eat* at home, *play* at home, *entertain* at home—that's how it is in small cities and towns.

And now these big, home-owning families have more money to spend than they ever had before. *Be there* when they spend it! Take the inside track . . . take Household!

STOP! LOOK! LISTEN!

STOP—**compare Household's low cost per thousand readers!**

LOOK—**Look at the new Household format. Look at the *Idea-Planned* editorial pages—they back up Household advertisers with more than 250 "buy-ideas" per issue!**

LISTEN **to this—Household circulation has hit a new high of 2,000,000—and advertising revenue is up more than 40%!**

Capper Publications, Inc., Topeka, Kansas

HOUSEHOLD

a magazine of action for small cities and towns

RESEARCHERS, Dr. R. M. Schaffert and C. D. Oughton, of Battelle Memorial Institute, working out details of "Xerography," a nonchemical process for picture-taking and printing

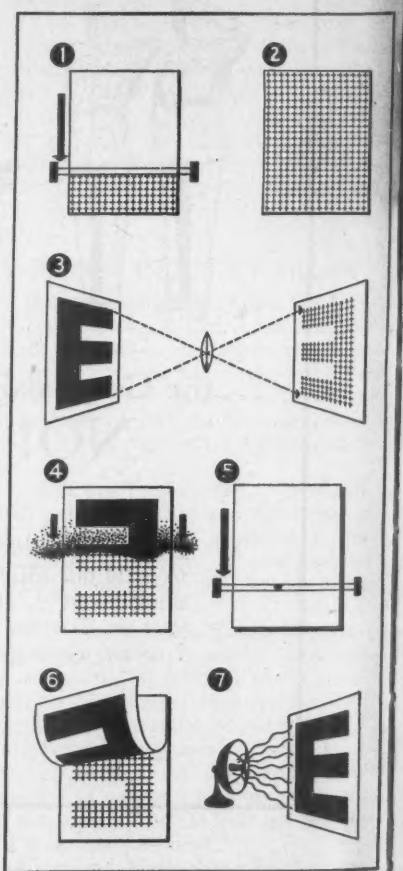
Reproducing Photos By Electrostatic Means

The newest trick in reproduction is to use electrostatic principles to take pictures, reproduce documents, and to print on virtually any kind of surface.

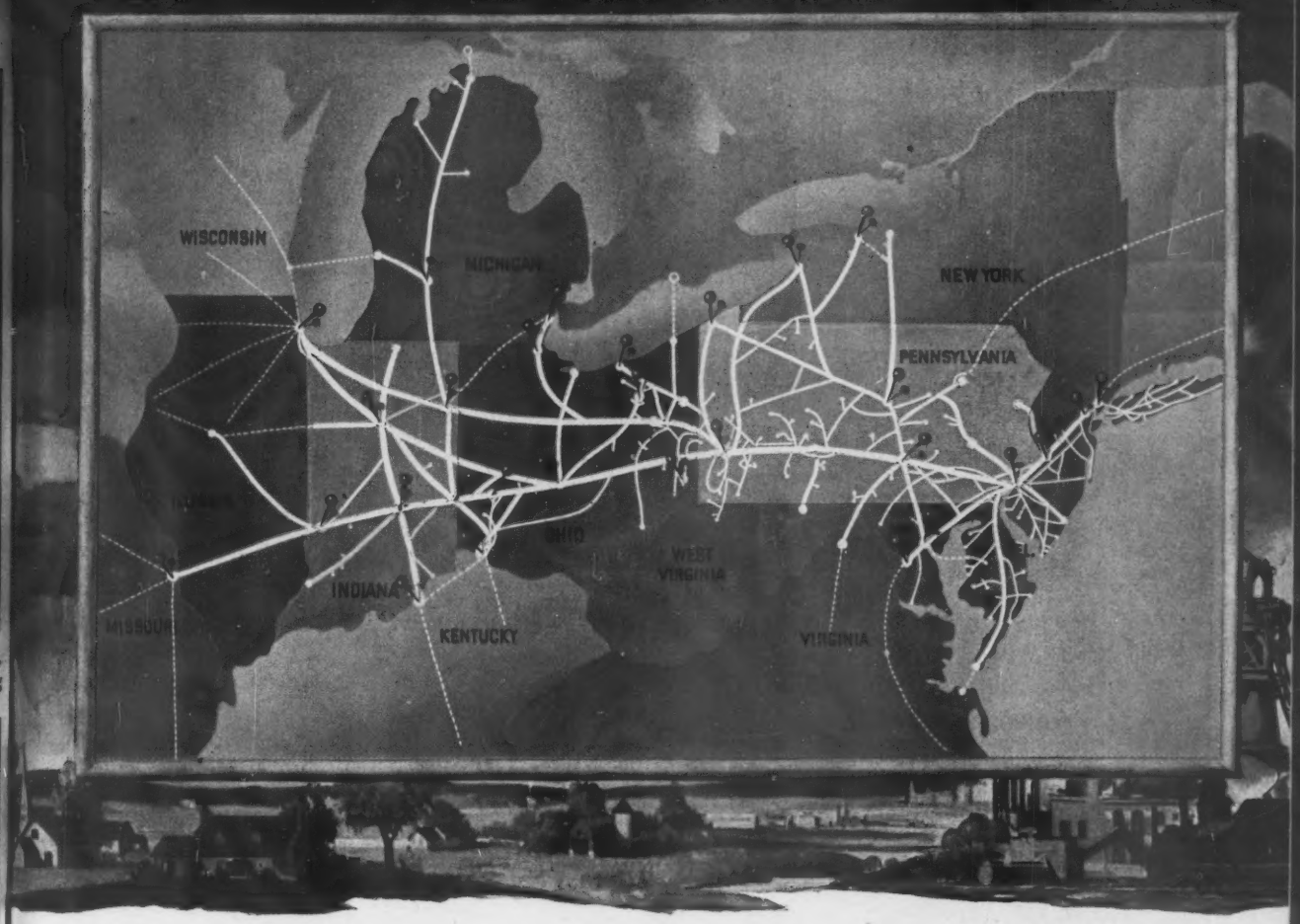
The method, called "Xerography" (Greek for dry writing—pronounced ZeerOGraphy), was shown last week in Detroit to the Optical Society of America. Its sponsors: The Haloid Co., of Rochester, N. Y., and Battelle Memorial Institute, Columbus. The technique was invented by Chester F. Carlson, New York patent attorney.

• **Step by Step**—As shown in the diagram at right, an aluminum sheet coated with photoconductive material is "sprayed" with a positive charge of electricity (steps 1 and 2). When the "plate" is exposed to light rays, the positive charges in the light areas are conducted into the metal (step 3). Then a negatively charged powder will adhere to the parts of the image still holding a charge, making a "negative" (step 4). When a positively charged sheet of paper is placed in contact with the "negative," it picks up the powder making a "print" (steps 5 and 6), which is then "fixed" permanently by heat. Time: less than 1 minute.

The basic method can be adapted to printing, too. First application, now in the works, will be to a business copying machine to be made by Haloid. Both Haloid and the Army Signal Corps are sponsoring more research on the method at Battelle.



DRY PICTURES: Step-by-step diagram shows plate being "coated" electrically; light exposure "erasing" charges on plate; powder being applied; and final "fixing"



Short-Cut to Markets

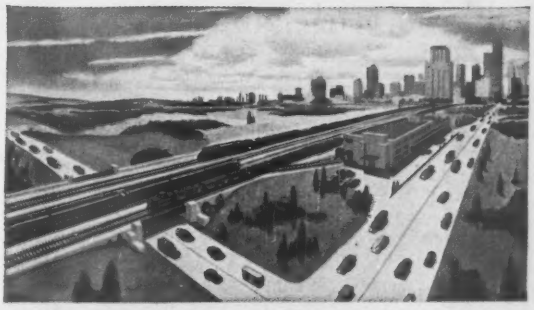
Here are the Centers of Quick, Low-Cost Distribution

- The map shows a few of many locations in Pennsylvania Railroad territory that are ideal for distribution.
- Within direct, low-cost reach of 9 of the Nation's 11 largest cities.
- Over 11,000 miles of railroad, paralleled by main highways linked to a great network of fine secondary roads. Best coordination for distribution—trains for the long haul; trucks for the short haul.
- Best in rail facilities—2700 freight trains; 1100 passenger trains daily. The shortest East-West route.
- Over 3000 communities provide opportunity for plant locations outside congested industrial areas, meeting urgent recommendations of National Security Resources Board for dispersal of industry to areas which would be relatively safe in event of atomic attack.

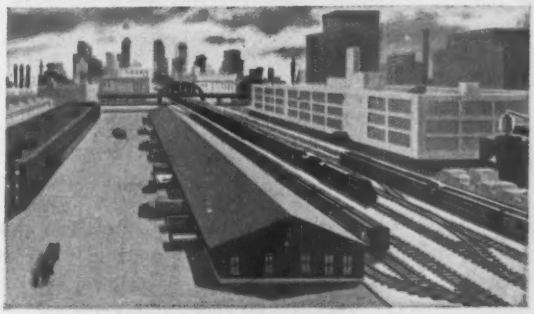
PENNSYLVANIA RAILROAD

FOR DATA ON AVAILABLE BUILDINGS AND SITES CONSULT THE FOLLOWING PENNSYLVANIA RAILROAD INDUSTRIAL AGENTS:

NEW YORK • A. A. METZ, Pennsylvania Station
PITTSBURGH • J. V. DAVIS, Pennsylvania Station
CHICAGO • C. D. WILKINS, Union Station
PHILADELPHIA • B. K. WIMER, Pennsylvania Station—30th St.
INDIANAPOLIS • A. J. VONK, 108 E. Washington Blvd
H. C. MILLMAN, Broad St. Station Bldg., PHILADELPHIA



PRODUCTS MOVE FAST HERE— 2700 freight trains daily on Pennsylvania Railroad. Main highways parallel practically the whole 11,000 miles of [illegible]-of-way and feed to excellent secondary roads.



L.C.L. POOL CAR DISTRIBUTION—Each pool car is loaded with less-than-carload freight for a common destination and gets there in a hurry—another advantage of a pool car set-up on the Pennsylvania Railroad.

Life Story of a Champion Wo

The fabulous Paul Bunyan never logged so many trees so fast as the portable, one-man power saws, pictured above, used in harvesting pulpwood. Secret of their tireless, high-speed performance is the tough, elastic, *two-way* driving "muscles" developed by the G.T.M. — Goodyear Technical Man — that now operate these saws up to 100% longer without drive failure.

As the picture shows the saw blade can be operated either horizontally to hew trees close to the ground, or vertically to cut up felled logs. This means that the Multi-V belt drive (powered by a small 4-6 H.P. gasoline engine mounted on a rubber-tired carriage) must operate at times in quarter-turn position, throwing added strain on the belts.

Another everyday hazard is the loggers' practice of moving from tree to tree with saws in operation. Thus brush is frequently caught in the drive and whipped into the pulleys, causing belts to snap. Under these conditions the best conventional V-belts were giving only a few hours' to a few weeks' maximum service, so the G.T.M. was called in

After careful analysis of the situ tion — the shock loads, severe hea quarter-turn operation and brus pickup — the G.T.M. designed special Pulpwood Saw V-Belt. It sinewed with highest tensile rayo cords with enough "give" to carr all but the heaviest brush throug the pulleys without breaking. R sult: *far fewer breakdowns, up 100% longer belt life!*

What's your "V" need? There a specially designed Goodyear V-belt for every type of drive, from 10

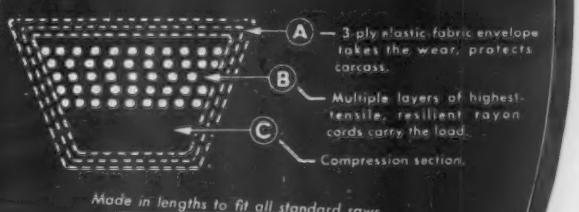
000 F.P
el-cable
minate n
oblem d
edge" V-
mpact n
F.M. will
correct
gest serv
ite: Goo

GOODYEAR INDUSTRIAL RUBBER PRODUCTS

GY-Specified

PULPWOOD SAW SPECIAL V-BELT

for power saws


A
3-ply elastic fabric envelope takes the wear, protects carcass.
B
Multiple layers of highest-tensile, resilient rayon cords carry the load.
C
Compression section.

Made in lengths to fit all standard saws

FOR HOSE, BELTING, MOLDED GOODS, PACKING, TANK LINING built to the world's highest standard of quality, phone your nearest Goodyear Industrial Rubber Products Distributor.

50

Volcutter

lled in 000 F.P.M. operating speed.
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GOODYEAR

THE GREATEST NAME IN RUBBER

It's a good thing he doesn't dress for every industry he serves

He's a Square D Field Engineer. There are others like him in Square D branches in more than 50 principal cities of the United States, Canada and Mexico. These men are liaison between Square D and industrial America. Their full-time job is contacting industries of every type and size. It is through them that we are able to do our job effectively. That job is three-fold: To design and build electrical distribution and control equipment in pace with present needs—to provide sound counsel in the selection of the right equipment for any given application—to anticipate trends and new methods and speed their development.

If you have a problem in electrical distribution or control, call in the nearby Square D Field Engineer. He makes a lot of sense in finding **"a better way to do it."**

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

SQUARE D CANADA, LTD., TORONTO, ONTARIO • SQUARE D de MEXICO, S.A., MEXICO CITY, D.F.

NEW PRODUCTS

Word Killer

SoundScriber Corp., New Haven 4, Conn., has turned up with a machine that it says will cut recording costs for its customers by 75%. The machine, the SoundEraser, cleans the plastic discs used on the company's dictating equipment, has them ready for reuse in a matter of seconds.

The SoundEraser is a compact job, takes up about as much space as a portable radio. It is completely automatic. All the operator has to do is put a disc on a spindle and press a button. Then the machine spins the disc in a bath of heat and infra-red rays. The force of the spinning operation on the heated Vinylite plastic erases both sides of the disc at the same time. In less than a minute the lid of the machine opens and the job is finished. Each disc can be erased 25 times or more.

The machine will be leased by SoundScriber's dealers on a 15- and 30-day basis for large users. Smaller users can have their discs erased at the company's service centers.

• *Availability: first of the year.*

Iron Handyman

Mechanical devices that take over manual lifting, turning, and feeding jobs have been getting a lot of study from production experts at the auto plants (BW—Oct.23'48,p70). One of the devices, a press unloader, is now available commercially. The developer: Sahlin Engineering Co., 467 S. Woodward, Birmingham, Mich.

The unloader works on practically all types of presses that handle medium- and large-size stampings. Because it is a completely separate unit, it can be timed to remove the stampings at any point on the upstroke of the press. When you have to turn them over during an operation, the unloader can be set to do the job.

Here's how it works: After the stamping has been formed or sheared, the ram starts its upstroke. Iron hands on the unloader then reach into the die, grip the stamping, pull it out and swing it back onto a conveyor. The unloader can be set to lift the stamping as high as you want before it swings the metal out of the press.

• *Availability: three to four weeks.*

Container Tagger

New machines to label frozen-food containers are coming off the line at Packaging Sales Co.

The machines are designed specifically to handle rectangular fiber-body cans—after they've been filled. These cans, which have a metal top and bottom, are used primarily to pack fruits and berries.

Ordinarily, cans of this type are labeled in advance. Printing is done directly on the fiber body or a paper label is put on when the can is put together. In most cases, that means a custom packer must get commitments from buyers before he packs.

The new equipment makes it possible for the freezer to pack in naked cans, label the products later on. That way he gets added flexibility in the sale of his pack.

In the machine, cans feed into a rotary turret where a glued label is put on one side of the can. Then the can turns and the label is slapped on the remaining three sides. A bristle brush smoothes the label against the body, fits it to the contours of the can.

Packaging Sales' address: Colman Bldg., Seattle 4, Wash.

• *Availability: some machines now, others for 1949 pack.*

Geared Outboard Motor

Johnson Motors, Waukegan, Ill., has tooled up for production on a new outboard motor. Its big feature: a gear-shift control that gives you forward, reverse, and neutral settings.

The Johnson Model QD has a rating of 10 hp. at 4,000 r.p.m. Without its fuel tank, it weighs 56 lb. The tank is a completely separate unit, has a 5-gal. capacity. You hook it up to the motor with a 12-ft. flexible fuel line.

Johnson points out that with the gear-shift control you can start the motor in neutral, shift into reverse to back the boat away from the dock, then shift again when you're ready to "open her up." Other features: one lever speed-control; slow, steady trolling speed; quiet underwater exhaust; rubber floated propeller.

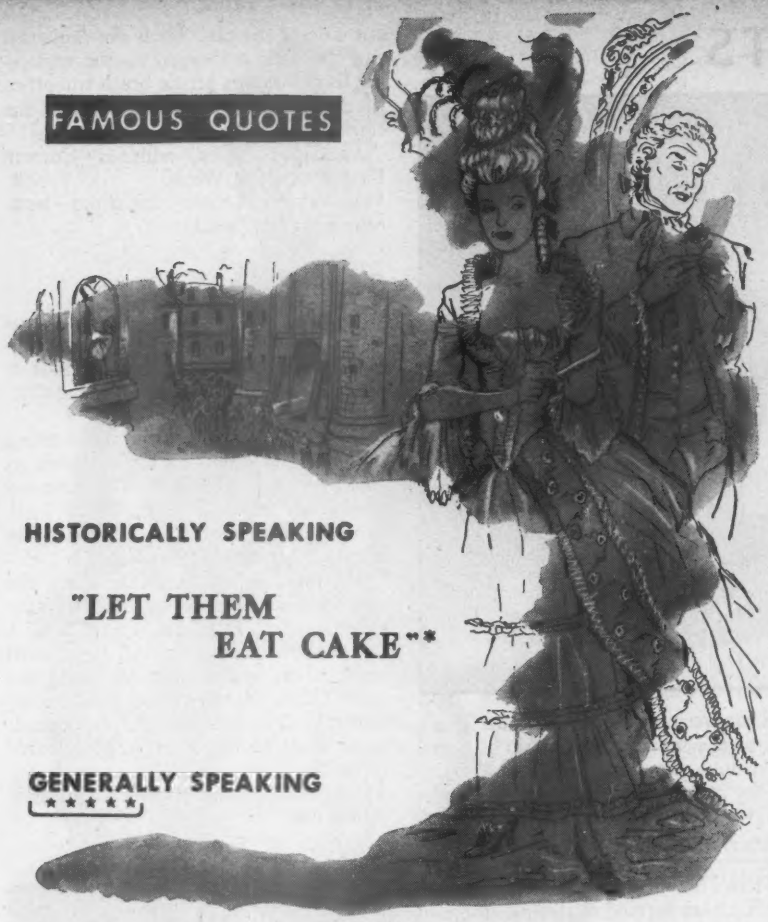
• *Availability: shipments begin in early November.*

Improved Typewriters

At its stall at the National Business Show in New York this week, International Business Machines Corp. corraled attention with a couple of new electric typewriters. The new machines —Executive and Standard models—are compact, streamlined, and are finished in soft gray. The mechanism under their navy-blue keys is covered with a keyplate to keep out dust.

Both new models have I.B.M.'s all-electric keyboard. Among the new features:

• A multiple-copy control lever. This means you can turn out many legible carbon copies without increasing the force of the typing stroke. When the control lever is moved forward or back-



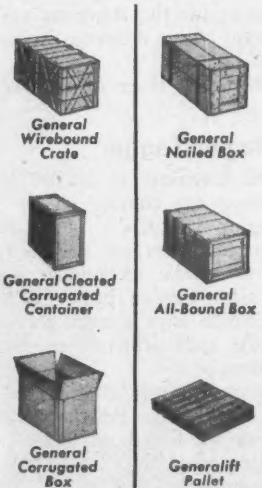
"the container is part of the product"

...and a very important part indeed! Important because the proper containers... General Engineered Shipping Containers... assure positive protection and reduced packing and shipping costs.

And, here's why: they're compact—no space is wasted. They're lightweight yet extra strong—no materials are wasted! They're actually a "part of the product."

If you are faced with a packing problem, or if you would like to consider improving your present container, write us today. Our engineers will be glad to help you. Also send for your free copy of "The General Box."

Marie Antoinette (1755-1793), Queen of France. When told that her suffering subjects had no bread, it is reported that she said: "Let them eat cake."



GENERAL BOX COMPANY ★★★★★ ..engineered shipping containers

GENERAL OFFICES: 502 N. Dearborn St., Chicago 10

DISTRICT OFFICES AND PLANTS: Brooklyn, Cincinnati Detroit, East St. Louis, Kansas City, Louisville, Milwaukee New Orleans, Sheboygan, Winchendon, Natchez. Continental Box Company, Inc.: Houston, Dallas.

ward, the platen is adjusted to the thickness of the copies.

• Four-position ribbon control. It shifts a solid-colored ribbon to any one of three writing tracks. Or it disengages the ribbon completely for stencil work.

• Margin-set key on the keyboard.

• Electric ribbon rewind. This automatically feeds the ribbon onto either spool.

I.B.M.'s headquarters are at 590 Madison Ave., New York.

• *Availability: three to six months.*

Mobile Crusher

Athey Products Corp. has developed a portable crushing unit that it thinks will take a lot of the hauling work out of road resurfacing. The crusher takes broken surface material—black top, concrete, and gravel—from the road, crushes it to the size you need, then puts it back on the roadway in one continuous operation. Trips to a central crushing plant to rework the paving are thus done away with.

The unit, which can be towed behind one of Athey's Force-Feed Loaders, is mounted on a two-wheel, rubber-tired trailer. The crushing mill runs from a V-belt connected to a diesel engine. Bars inside the hopper of the crusher do an initial pulverizing job, divert fine material so that it doesn't have to go through the mill. One man can run the unit. The company address: 5633 W. 65th St., Chicago.

• *Availability: deliveries by the first of the year, or early spring.*

Multi-Purpose Power Tool

If you like combination power tools, Porter-Cable Machine Co. has a five-in-one electric job that should give you all the doubling in brass you need.

Basic unit of the tool is a 6-in. disc grinder. With attachments you can convert it into a polisher, sander, drill, paint mixer, and stone and metal cut-off tool. A 7-in. disc made with silicon carbide grit is used to cut stone, tile, other hard materials. Abrasive discs are used for sanding and polishing. The drill chuck takes a ¼-in. shank, handles a wide variety of attachments.

The tool weighs less than 6 lb.; it can be used in any position. Porter expects there'll be a score of jobs for it in the glass, wood, and metal-working industries, as well as the hobby shop. The company address: 1714 N. Salina St., Syracuse 8, N. Y.

• *Availability: immediate.*

Little Computer

Compactness and mobility were the aims of Goodyear engineers when they went to work on a new electronic com-

6 Wonderful Ways you can go Pullman!

1. Upper and Lower Berth. By day they're deep-springed, comfortable seats by a wide window. For sleeping, each converts into a large bed, with convenient shelf, clothes hanger and light.

2. Roomette. Private room for *one*, complete with sofa seat, toilet and washstand. A pre-made Pullman bed pulls out of the wall for sleeping. (The Duplex-Roomette—a lower-priced version of the Roomette—is also available on some trains.)

3. Bedroom. All the comforts of a full-length sofa (or a contoured seat and folding chair), full-size lower and upper beds, enclosed toilet and washbasin. (The Bedroom accommodates one to two people. The connecting Double Bedroom accommodates up to four.)

4. New Compartment. Features a folding, full-size bed, plus upper berth, contoured seat and folding chair. Toilet and washbasin are enclosed. (The Compartment, designed for two or three persons, may also be had connecting with a Bedroom to sleep up to four.)

5. New Drawing Room. Sleeps up to five comfortably. Two movable lounge chairs give a spacious living room effect by day. There's plenty of dressing space. Toilet and washbasin are enclosed. Lighting, heating, air-conditioning and ventilation are personally controlled.

6. Lounge Car. Your private club on wheels no matter how you go Pullman. Easy chairs for relaxing, a table for writing, the conversation and companionship of other people to enjoy. Plus an attentive waiter to serve you refreshments. Here's another Pullman extra at no extra cost!

NOTE: *All these accommodations are not now available on* all *trains. But more and more trains will have them in the months ahead.*

IT'S GOOD BUSINESS TO

Go Pullman

THE SAFEST, MOST COMFORTABLE WAY TO GET THERE!

☆

The National Guard Defends America—Join Now!

© 1948, THE PULLMAN COMPANY

It's costing you MONEY not to have this free booklet

This brochure points the way to *unexpected* savings from an *unsuspected* source! It offers proof that you may be *paying dearly* for neglected insanitary washrooms . . . presents evidence that a *properly planned* washroom service can save you more money . . . in more ways . . . than you may think possible . . . An "Ideal Washroom Maintenance Service" cites telling facts and figures—lets you discover for yourself how West can improve your employee relations, and also effect impressive savings in labor, time, and maintenance materials. And at unbelievably low cost, too! *West has "serviced" industrial washrooms from coast-to-coast for over half a century!*

NO CHARGE! NO OBLIGATION!

Write at once for this vitally important brochure! Simply fill out and clip the coupon to your business letterhead.

PLEASE CLIP TO YOUR BUSINESS LETTERHEAD

WEST DISINFECTING Company

42-25 WEST ST., LONG ISLAND CITY 1, N. Y.

I would like a copy of "An Ideal Washroom Maintenance Service"

NAME_____

POSITION_____

ADDRESS_____

puter. The finished machine shows how the design measured up to their objectives. In contrast with some of the giant computers now in use, the new unit is only two ft. square, about six ft. high. Its 800-lb. weight can be moved around on built-in casters.

Goodyear developed the machine under a special contract with the Air Force. The computer has a board with plug sockets—something like a telephone switchboard. To solve an equation, you hook up these sockets so that they simulate the values of the equation. Then the machine takes over. Voltages in the computer vary in accordance with the equation to give an answer. These final electrical impulses are translated into motion on a recording pen; the result is plotted as a curve on paper.

One computer is designed to handle 20 separate mathematical operations. To solve more complex problems, you can link two or more units together Goodyear Aircraft Corp. is at Akron, Ohio.

• *Availability: commercially in the near future.*

P. S.

Die chasers with carbide tips will step up the cutting and finishing of screw threads. On one turret lathe a carbide chaser is said to have cut a ¾-in. thread in ½ sec. at 2,000 r.p.m. Jones & Lamson Machine Co., Springfield, Vt., the manufacturer, says a high-speed steel chaser could have cut the thread at only about 80 or 90 r.p.m.

Combination fuel burners are showing up in greater numbers. The latest: (1) Dravo Corp., Pittsburgh, has a coal-fired job that can be switched over to either gas or oil; (2) Automatic Firing Corp., St. Louis, offers a model that goes over from gas to oil automatically when the temperature drops below a certain point.

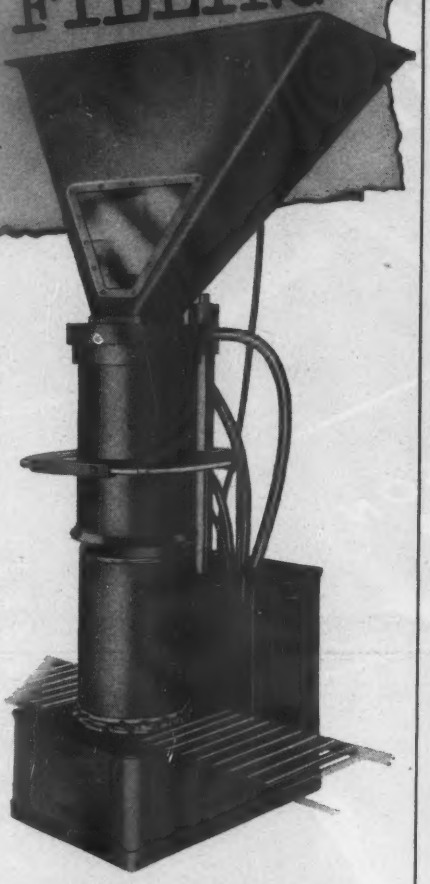
Business executives—yes, and their *secretaries*—can accomplish so much more when an office is equipped with the Edison Electronic Voicewriter. Free to dictate speedily and whenever it's convenient, key personnel have time for other important duties. Edison's exclusive Ear-Tuned Jewel-Action "tailor-makes" the dictator's voice so that the secretary transcribing at her convenience hears every word . . . clearly and unmistakably. By avoiding costly, time-wasting errors, the secretary, too, is able to do more work. *No other instrument matches Edison understandability . . . for only* Edison has Ear-Tuned Jewel-Action.

Thomas A Edison

Only the EDIPHONE MAN brings you the exclusive advantages of Ear-Tuned Jewel-Action

Phone "EDIPHONE" in your city, or write Thomas A. Edison, Incorporated, West Orange, New Jersey. In Canada: Thomas A. Edison of Canada, Ltd., Toronto 1, Ontario.

NEW MACHINE CUTS BULK POWDER FILLING COSTS



Packing powdered products in bulk containers is a high-speed, semi-automatic operation with the new General Mills Model E Vacuflow Powder Filler. It fills drums, paper, cloth or multi-wall bags and other containers ranging in size from 25 to 200 pounds, under practically dustless conditions.

A new principle of packing is used —an intermittent vacuum that fills containers with complete control over the weight and density of both free-flowing and non-freeflowing powders.

There are other Vacuflow models to take care of any packaging need, from multi-head high-speed output to manual filling of boxes, cans and jars in small and medium sizes.

We're sure a performance test of your product on a Vacuflow Powder Filler will bring interesting results. Send us about a cubic foot of your product and several of your containers (or dimensions of bulk containers) and we'll run a test free of charge. Address Dept. B1082, General Mills, Inc., 1620 Central Ave., Minneapolis 13, Minnesota.

GENERAL MILLS MODEL E20 VACUFLOW POWDER FILLER

Made by one of the world's largest users of packaging machinery

Copyright 1948, General Mills, Inc.

READERS REPORT:

Pleasing Somebody

Sirs:

I recently read your article on annual reports, "Pleasing Nobody" [BW—Aug. 7'48,p86], and wish to congratulate you on its readability and general excellence. It should be, I believe, required reading for all members of the public accounting profession.

Substantially similar subject matter is appearing in accounting periodicals, but it clearly is not being read with as much understanding as will your article. This unfortunate condition, in my opinion, is inevitable, since our professional authors, regardless of how skilled in accounting and auditing, are amateurs in writing for publication. Almost without exception, they lack that indefinable something that makes technical writing newsy and interesting.

No doubt, ten practicing public accountants will read "Pleasing Nobody" with care and understanding for each one who will read, equally attentively, any of the articles on the same subject appearing in our professional publications.

GEORGE F. SHANNON
TUPPER, MOORE & CO.,
WORCESTER, MASS.

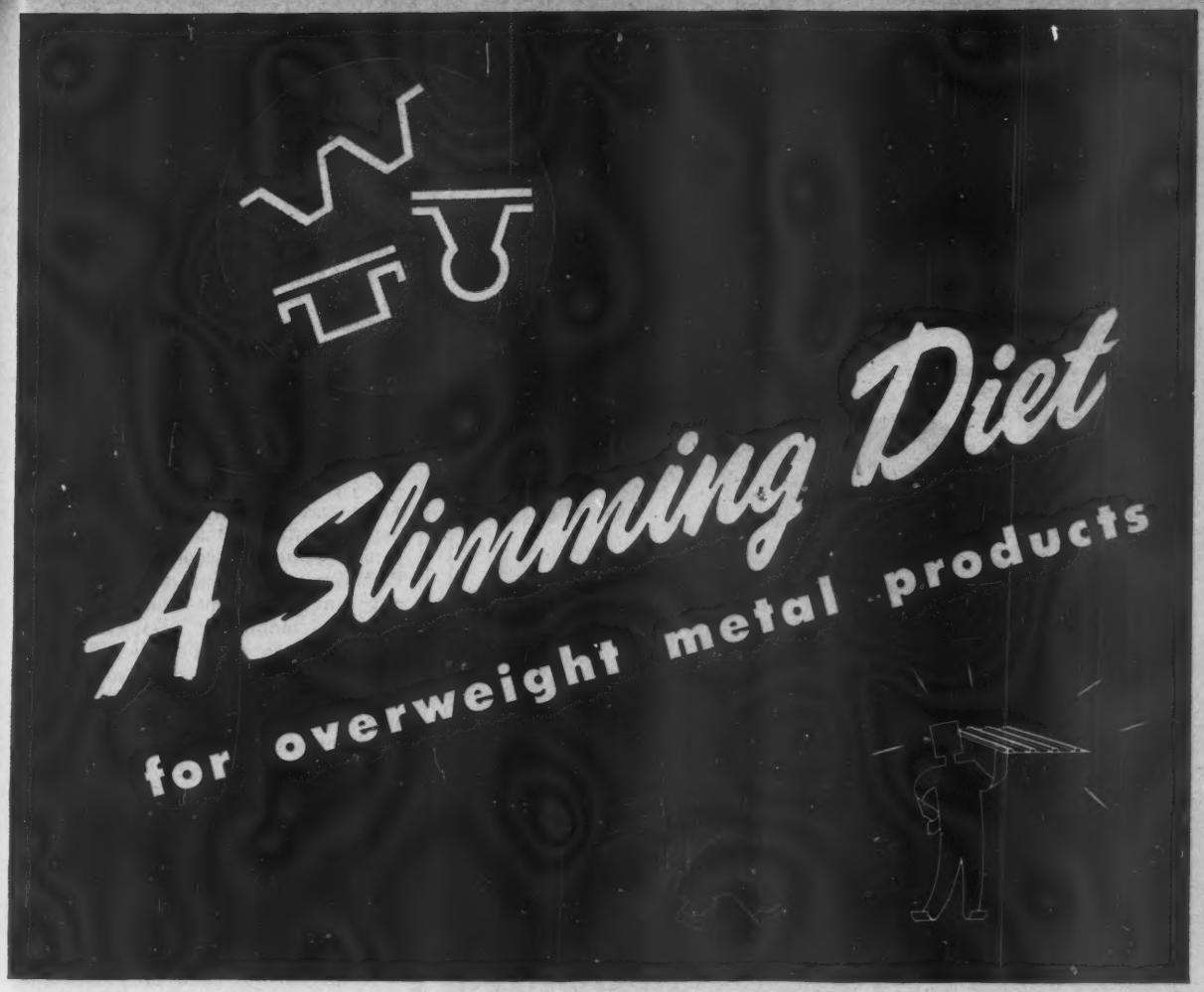
Another Insurance Viewpoint

Sirs:

You carried a very interesting story of the widespread discussion of the Federal Reserve policy of maintaining a pegged market for government bonds [BW—Oct.2'48,p24].

Your story is informative and should be of real interest to every businessman. In one respect, however, I believe that it leaves a misimpression. Both the headline and the article convey the impression that the insurance industry is unanimous in its criticism of the Federal Reserve program of supporting the government bond market. While it is true that Mr. Parkinson [Thomas I. Parkinson, president of Equitable Life Assurance Society] has been the most vocal insurance man on this subject, I am persuaded to believe that his opinion is shared by only a minority of the responsible executives of insurance companies. There is a very substantial and solid body of opinion in the insurance industry that believes the most disastrously inflationary move the Federal Reserve system could take at this time would be to remove the pegs and permit government credit to find its level. . . .

Of course, all of us deplore the necessity for any sort of artificial support of government credit, just as most of us decry many of the controls that have



Would your products look better, operate more efficiently, if they could be made *lighter* without sacrificing strength?

Chances are the answer is "yes." And chances are *good* that you can do this job with ARMCO High Tensile Stainless Steels. The problem of using them effectively — without increasing ultimate costs — is usually one of *proper design.*

USE OF STIFFENERS

Sufficient rigidity can often be obtained with light sheets of ARMCO Stainless Steels by increasing section-depth, such as by corrugating. Where localized deflection is likely to occur, stiffeners like those shown above are often used to strengthen parts subjected to heavy stresses.

These sectional shapes, welded or riveted to the structure, prevent buckling, and supplement the inherent high yield strength obtainable in specially processed stainless grades. They may take such forms as angles, channels, and hat-sections.

OTHER SALES ADVANTAGES

Strength by design has given more than one product a strong foothold in a highly competitive market. Combine this with all the other advantages of ARMCO Stainless Steels — resistance to heat and corrosion, an enduringly beautiful finish, lasting customer appeal — and you have a powerful sales weapon.

These excellent properties of ARMCO Stainless Steels may be the means of improving your products, or those you are designing for the future. Your customers will accept the familiar ARMCO Triangle on your product as assurance that you have selected the steel best suited to the purpose. Armco Steel Corporation, 440 Curtis Street, Middletown, Ohio. Export: The Armco International Corporation.

ARMCO

ARMCO STEEL CORPORATION

The familiar ARMCO Triangle identifies special-purpose steels that help manufacturers make more attractive, more useful, longer-lasting products.

Merchandised Editorial Content

. . . one of the Big 10

CAPPER'S FARMER ADVANTAGES!

"Howdy, neighbors," the radio says, and all over Mid-America, farm families listen. They know the next minute will be interesting, helpful—*it's Capper's Farmer on the air!*

Each announcement takes up some activity that's right at home with these families . . . some problem in farming or farm life. Then it tells of a practical, profitable way to solve it—straight from Capper's Farmer.

Soon, listeners are leafing through the latest issue. Looking for this article they've heard about . . . seeing other articles, too . . . *and seeing your advertisement.*

Merchandised Editorial Content! Of all farm magazines, only Capper's Farmer gives advertisers this support . . . consistently . . . for almost three years now . . . on top radio stations reaching every farm state in Mid-America.

And Merchandised Editorial Content is *only one* of Capper's Farmer's BIG 10 . . .

1. **Largest rural publisher in America.**
2. **Richest farm market in the world.**
3. **Best coverage buy.**
4. **Quality circulation.**
5. **No mass small-town circulation.**
6. **Farm-tested editorial material.**
7. **Reader confidence.**
8. ***Merchandised editorial content.***
9. **Market dominated by farmers.**
10. **Most quoted farm magazine.**

No other farm magazine has them all . . . not one!

only **Capper's Farmer**

TOPEKA, KANSAS

been imposed by government in the last dozen years. However, there is broad recognition that existence of a $250-billion national debt is the single most significant economic fact in the world today. Upon the proper management of that debt depends to a very large degree the economic health and prosperity of our country. As much as insurance companies would like to earn a larger return on their invested assets, many of us believe that it would be foolish to risk a wholesale dumping of government bonds by big and small investors alike which might well happen if the federal credit depreciated.

E. J. FAULKNER
PRESIDENT,
WOODMEN ACCIDENT CO.,
LINCOLN, NEB.

• We certainly did not mean to give the impression that all insurance companies without exception share Mr. Parkinson's viewpoint on pulling the plug on government bonds. On the basis of a number of talks with insurance men, we would have said, however, that a majority of them favor a reduction in the support price. We're interested to learn that reader Faulkner would consider this a minority view.

New Costing Method

Sirs:

Readers of your article, "Management's No. 1 Problem" [BW—Oct.2 '48,p19] may be interested in the following rather unorthodox method of costing.

With varying costs of production, selling, and merchandising, it is almost impossible for any system of cost accounting to keep up with price trends. Standard cost systems have been unable to meet rapidly changing conditions and have, in many instances, broken down completely.

Instead of using customary methods of assessing costs, it may prove more satisfactory during a period of rapidly changing conditions to use: (1) labor efficiency standards, and (2) a method of charging out materials on a "quoted cost" basis.

In my opinion, the only method of controlling labor costs today is on a basis of labor efficiency. Whether the basic labor rate is 50¢ per hour or $2.50 per hour, the efficiency of the men is what really counts. Similarly, the efficiency of machines and machine hours can be determined.

Materials could be charged on a "last in, first out" basis to give a truer picture of material costs than standard methods do, but even this would not give an accurate picture. Instead, material price ought to be based on day-to-day quotations to keep the cost reports in line with current prices. By this

method, regardless of the actual cost of the material used, the price charged to production would be based on the latest price quotation; the difference could be charged or credited to an Inventory Fluctuation Reserve Account.

In using this method, actual costs are not shown on the cost sheets and there may be either a profit or loss on inventory. However, I believe this is incidental; the market price of the finished product is largely governed by the market price of the component parts.

It would be foolish to try to obtain a high price for an article just because the materials put into it cost 50% more at the time they were purchased than they can be bought for today. Likewise, to pass on to the consumer a profit on inventory may injure the manufacturer, who will have to replace his stock at higher prices. . . .

A. G. BENDELL
A. G. BENDELL, PUBLIC ACCOUNTANT,
BROOKS, ALBERTA

It's Done by Lights

Sirs:

May I amplify your excellent article on Cincinnati's new Terrace Plaza [BW—Jul.3'48,p22]? In this hotel, much that is novel, trend-setting, thought-provoking, carrying the sense of excitement and beauty is provided by one architectural medium—light! The lighting is by Abe Feder, done in conjunction with the architects, Skidmore, Owings & Merrill.

CLAUDIA CAMPBELL
LIGHTING BY FEDER,
NEW YORK, N. Y.

Fawcett's Comics Record

Sirs:

In your treatise on comics magazine publishers and their titles [BW—Oct. 9'48,p56], you include all of the distinguished publishers who are doing a fine, clean entertaining job by our youth —except one, Fawcett Publications, Inc.

Fawcett, the largest publisher of monthly magazines in the world, was one of the pioneers in comics magazines, was one of the first two publishers to build comics as great advertising media, one of the first two publishers to research, promote, and establish the field.

With a board of rigid editorial control serving our comics during most of our publishing life, NO Fawcett comics has ever been censored or banned. We are one of the two (of many) publishers permitted this boast.

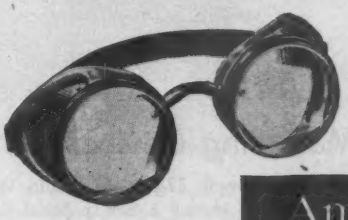
I hope you will spotlight this sizable omission from your excellent article.

ELIOTT D. ODELL
ADVERTISING DIRECTOR,
FAWCETT PUBLICATIONS, INC.,
NEW YORK, N. Y.

Here's an Expense
that can be cut 98%
in these Days of Rising Costs

According to the Society for the Prevention of Blindness, 98% of industrial eye accidents are prevented when shop workers wear safety goggles. Even in 1939, eye accidents cost industry well over $300 per injured man per year *in compensation alone.* TODAY THERE'S A 78½% "TAX UPON THIS TAX"!

What to do about it? Call in your nearest AO Safety Representative. Let him show you *how much* an adequate eye protection program has saved other plants in your industry, *how little* it will cost you and *how soon* it pays for itself!



American Optical
COMPANY
Safety Division
SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

MARKETING

A Hard Look at TV's Future

Curtis Publishing survey predicts almost a million homes with receivers by end of 1948, coast-to-coast hookups by next spring. The big money is in set-making, at least for next few years.

Television has not yet come of age. But few people doubt that some day it's going to be big—a big industry, so far as producers of sets and transmitting equipment are concerned, and a big advertising medium.

• **Survey**—Last week the results of a comprehensive survey of the new industry hit the desks of executives of a few "companies associated with television." It was made by Curtis Publishing Co.

The survey raised a quick question: Why should Curtis—by indirection—call attention to what could some day be a rival? Obviously Curtis knows that nothing stays confidential long, that the survey would soon gain wider circulation than "a few companies associated with television."

The answer seems to lie in this slick strategy:

(1) The survey got in a boost for the Curtis publications—Saturday Evening Post, Ladies' Home Journal, Holiday—as a medium for TV receiver advertising.

(2) Before even the television industry itself made such a detailed study, Curtis can be credited with a frank appraisal.

• **Findings**—Here's what Curtis found: By the end of 1948, some 45-million people will be within the range of an operating television tower. About 60 commercial stations will be serving them. And almost a million homes will have receivers to catch the sight-and-sound offerings of the broadcasters.

Furthermore, East Coast networks (which link stations from Boston to Richmond) will be able to connect with Midwest hookups by the end of the year. This will mean that viewers as far west as St. Louis and Chicago can watch programs—and commercials—originating in eastern cities. And by the spring of 1949, Los Angeles should be able to get the same programs.

• **Set Prices**—Curtis found some other interesting facts in the television grab-bag. The average price of receivers is on the way down. So far, prices of sets have been high. One reason: the cost of development that has had to be amortized. But Curtis hears rumors of new low-cost sets, including one with a 7-in. tube to be on the market for $150.

From the standpoint of technology, the study finds no reason why consumers should hold off buying a receiver. Future improvements, says Curtis, are not likely to obsolete present sets. True, the Federal Communications Commission may move some TV stations upstairs in the frequency spectrum (BW—Oct. 9'48,p24). But current channels will be maintained. And a special converter (Radio Corp. of America says it would cost about $10) would help your old set to pick up the new frequencies.

If and when color television comes, an adapter will bring in the pictures—but you will see them as black-and-white unless you buy a new set. The best opinion as to when color television will be a commercial reality, says Curtis, is about five years.

• **Bottleneck**—The main brake on the present expansion of the industry, says Curtis, is its ability to produce. Output of transmitting equipment is small. Only three manufacturers—R.C.A., General Electric Co., and Allen V. DuMont Laboratories, Inc.—make transmitters. All are about six months behind on deliveries. But Curtis thinks other manufacturers may be permitted to produce the equipment under license soon.

Because of the shortage of transmitting equipment, many areas are still without stations—although licenses have been granted by FCC. Without telecasts available, there isn't much incentive to buy a receiving set. Even so, makers can sell all the sets they can turn out—despite the prices.

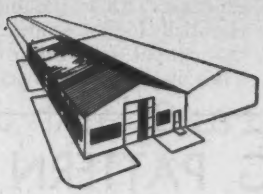
• **More Set Makers**—By the end of last year, 31 companies were in the receiver business; 35 more have entered the field so far in 1948. Last year DuMont, Philco, and R.C.A. did 75% of the business. But this year has seen the addition of mechanized production lines to many of the plants, so other manufacturers are probably increasing their share of the market. The ability of most receiver makers to produce, however, is still limited by the supply of glass viewing tubes (BW—Oct.16'48,p22).

• **Advertisers**—Despite these difficulties, advertisers are crowding aboard the video bandwagon—for any of a dozen reasons. The number of advertisers sponsoring television programs increased from 31 in January, 1947, to 181 last December. By June, 1948, the number was 374.

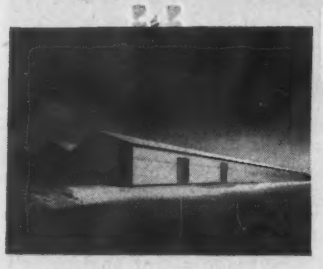
About 78% of the present sponsors are local advertisers (mainly retailers);

Marketing Devices Go to Work in Politics

John H. Caldwell, 32-year-old World War II veteran, is blazing a new political trail in Westchester County, N. Y. In the Republican stronghold, he is using modern marketing techniques to campaign for a seat in the New York State Assembly as a Democrat. Here, he is getting a point across with the help of a visual-aid board made by Hile-Damroth, Inc., New York. Another twist: He has put a political spiel on a wire recorder for his helpers to play over the telephone to willing listeners.



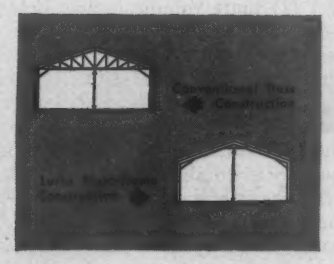
Why pay a premium for a "special" building?



1. One reason Luria Buildings cost less is because the complete line is standardized to permit mass production of all parts, with very little fabrication expense. Moreover . . .

2. You get all the *advantages* of standardization – without the usual limitations. For Luria Buildings are easily adaptable to almost any use. What's more . . .

3. They're *easy to erect,* because they use fewer and heavier members which require less handling, and all field connections are bolted. Still another advantage is that . . .



4. They give you *more usable head room* for the full length of the building, because Luria rigid-frame construction requires no intricate, space-consuming trusses.

Chances are, your exact requirements can now be met with *Standard* Buildings by LURIA

With building costs at an all-time high, why suffer the *extra* expense, the delay, the planning and engineering that go into a "special" building? Luria now offers you a complete line of Standard Buildings — *permanent,* steel-frame structures that can, in effect, be custom-tailored to your exact requirements. Yet they cost little or no more than light-weight, temporary buildings.

Many sizes are carried in stock for immediate delivery. Clear spans of 40 to 100 feet, eave heights of 12 to 20 feet, and any desired length in 20-foot increments. For complete information, ask for your copy of the new catalog on Standard Buildings. Write today to Luria Engineering Corporation, Dept. B2

Standard Buildings by LURIA

LURIA ENGINEERING CORPORATION
500 FIFTH AVE., NEW YORK 18, N. Y.

OFFICES IN:
Atlanta, Boston, Chicago, Cleveland, Philadelphia, Pittsburgh, and Washington, D. C.

It's Easy to Record and Play Back!

NEW RCA WIRE RECORDER

with exclusive plug-in cartridge

YOU make accurate on-the-spot recordings and play them back with crystal clear tone quality.

The "plug-in" cartridge—exclusive to RCA—records up to a half-hour of speech or music. Recordings may be played back immediately without tedious rewinding. They can be played back hundreds of times. You can erase and record new programs using the same cartridge. No wire handling or threading. Plug-in cartridge easily transferable from one RCA Wire Recorder to another.

Here are just a few uses for RCA Wire Recorder

Conferences and Discussions—All opinions are recorded verbatim for playback later or typing in report form.

Speeches and Lectures—Can be recorded and played back for study, editing, timing, delivery and memorizing.

Professional—Lawyers record interviews with clients. Doctors can review patient's history.

Educational—Speech, foreign language and dramatic classes use it for speech correction, for improving diction. Music departments will find it valuable in many ways.

At Home—Dictate letters, memos, ideas and other memoranda for transcription at office. Record radio programs, voices of family and friends.

Send today for FREE descriptive literature

SOUND AND VISUAL PRODUCTS
RADIO CORPORATION of AMERICA
CAMDEN, N.J.

In Canada: RCA VICTOR Company Limited, Montreal

only 22% are national advertisers. The latter, however, contribute more than 22% of revenues, because they are more likely to sponsor a program over an entire network instead of just one station.

National advertisers are hoping to gain experience while the medium is still essentially local in scope. And they hope that current sponsorship will give them a lien on the best time periods when the

THE MARKETING PATTERN

THE CONSTANT CLIMB of labor and material prices has pretty well convinced businessmen that their number one problem is costs (BW—Oct.2'48,p19). What to do about it?

On one front—production—manufacturers have made some strides. New manpower-saving machinery, time studies, and scientific plant layout have helped pare the expense of turning out goods. Strict cost-accounting techniques applied to manufacture have shown executives where they can shave expenses.

But on the distribution front, many companies are still lost in a fog. It's easier, for one thing, to put your finger on an unprofitable manufacturing process than on an unprofitable sale.

This week the Commerce Department offered marketing men a new clew to their problems. It is a 151-page booklet titled "How Manufacturers Reduce Their Distribution Costs." You can get it for 35¢ from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

The booklet aims to stimulate the thinking of marketing executives through a study of how 26 companies revamped their marketing plans to cut expenses and bring in more profits.

THESE MANUFACTURERS tackled their distribution costs in two ways. One was to cut out, do without, do more cheaply.

The other way was to discover how to get (1) more volume from a sales force of the same size; (2) more sales from a sub par territory without increasing sales expense; or (3) a larger average order through sales training. The companies covered in the booklet used both methods, frequently in combination.

In analyzing their marketing costs, the firms concentrated on four main problems: (1) how many and what kinds of customers to sell; (2) what channels of distribution to use; (3) which territories to cover; (4) which products to sell, and at what prices.

Many of the companies in the Commerce booklet think the solution is to drop unprofitable customers, territories, and products; or to cut out certain unprofitable channels through which their merchandise passes.

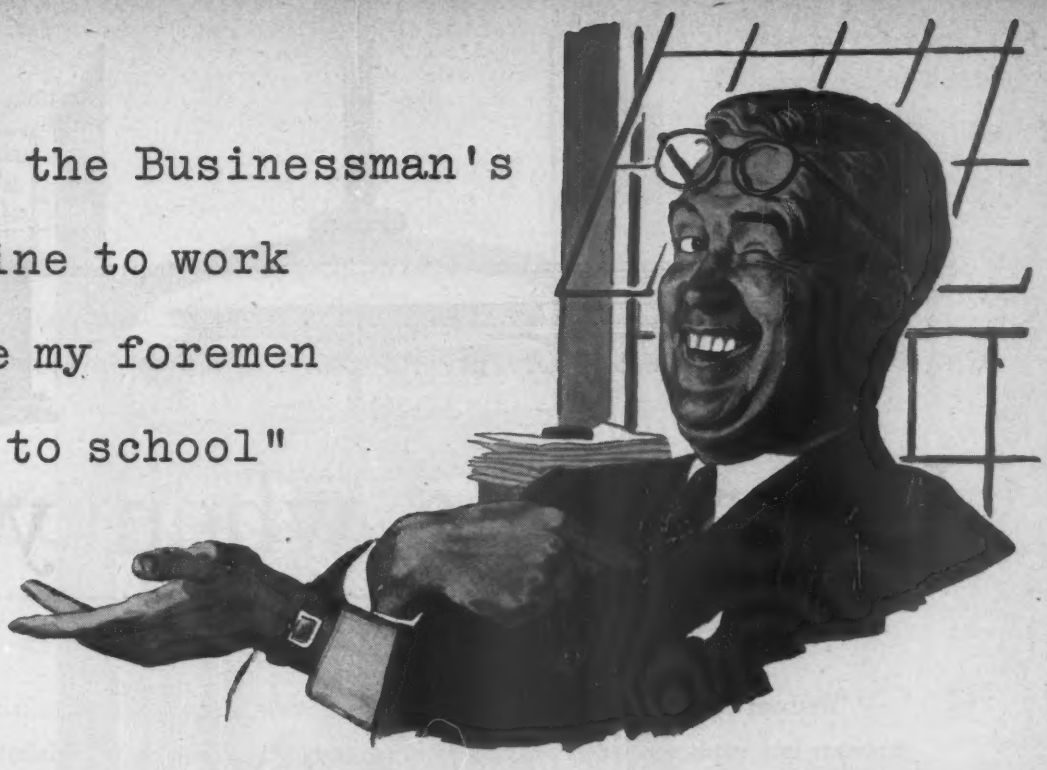
One common trouble, Commerce says, is that manufacturers have such a lust for large volume that they keep unprofitable products in their lines. In many cases, these products are unprofitable because it costs so much to market them. It's up to the marketing man to discover whether the decreased unit production costs of all his goods—the result of keeping the hard-to-sell items in production—outweigh the expense of marketing the items with high-cost distribution.

CASE NUMBER ONE in the Commerce study involves unprofitable customers. The X Co. found, through a cost analysis, that 41% of its customers accounted for only 7% of total sales. Over a period of years, most of the unprofitable customers were dropped; total sales rose 76% in four years; marketing expenses were cut from 22.8% to 11.5% of sales.

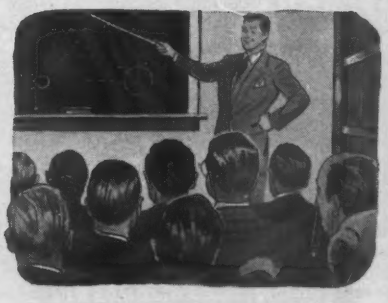
Another case deals with a manufacturer who made a cost analysis to determine the minimum size order that he could handle at a profit. The horrible findings: 50% of his orders were unprofitable to fill. The solution: He adopted a plan of selective distribution, which enabled him to cut these expensive orders from 50% to 10% of the sales total.

Still another manufacturer's case history shows the necessity for evaluating distribution channels. The company, which served many of its accounts directly from the factory, analyzed its sales. It found that two-thirds of its customers were handled at a loss; the expense of filling their small orders wiped out the profit margin on the sales. So he transferred the small accounts to his own dealers in the field. His marketing costs dropped some 40% while net profit increased 25%.

"I put the Businessman's Airline to work while my foremen went to school"

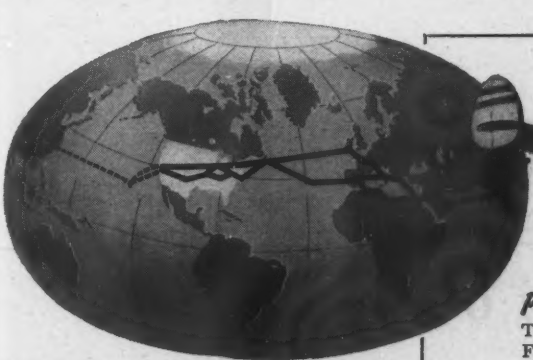


"What a spot for a plant manager! In our peak season, *ten* foremen ordered back to the Home Office for a day's special training! Why, the trip would have tied them up for three days. Good thing I remembered that TWA ad.



"Their fast schedules impressed me. I checked . . . found TWA had just the service I needed *plus* a new group rate that saved me 20% on the fare. Foremen left the morning of the meeting, flew back at the end of the day.

"Now the Home Office thinks I'm an efficiency expert! Two days' travel saved. No hotel bills or extra meals. The men liked TWA's comfort and were home the same night. How's that for putting the Businessman's Airline to work!"



HIGH WAY OVER THE OCEAN. If you're bound abroad on business, TWA's strategic routes and fast Skyliners can save you weeks on the way. And TWA's new round-trip transatlantic fares are lower than ever before!

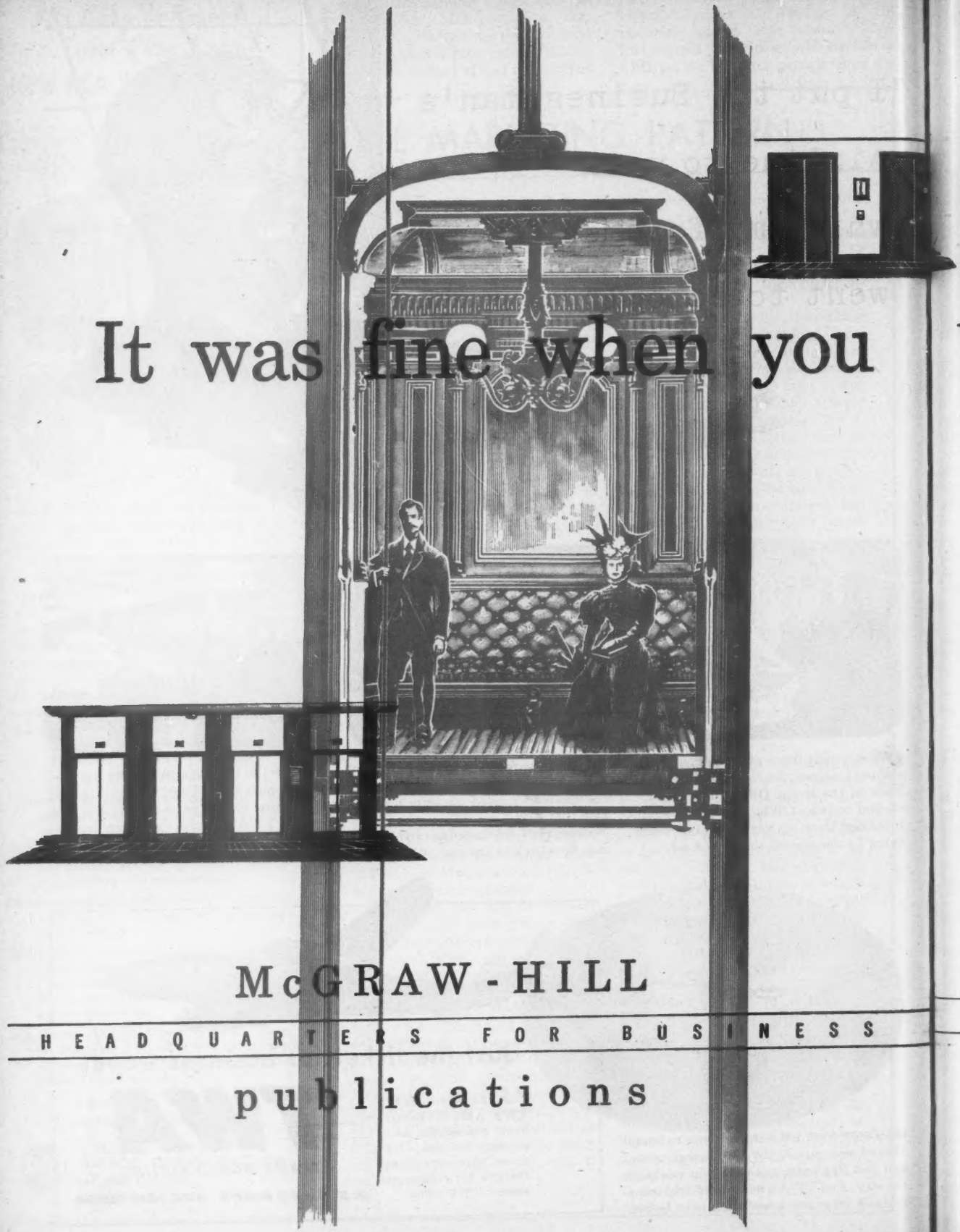
Just the ticket for business travel

P.S. Ship anywhere by TWA AIR CARGO. Fast, dependable, surprisingly low cost. Call your international freight forwarder or nearest TWA office.

TWA

TRANS WORLD AIRLINE

U.S.A. · EUROPE · AFRICA · ASIA



It was fine when you

McGRAW-HILL

HEADQUARTERS FOR BUSINESS

publications

Back in those good old days, the elevator was a form of industrial art as well as vertical transportation. Installed in a modern skyscraper, one of these hand-operated, plush-lined beauties would require a full working day to handle the traffic that today's high-speed elevator carries in a single busy hour!

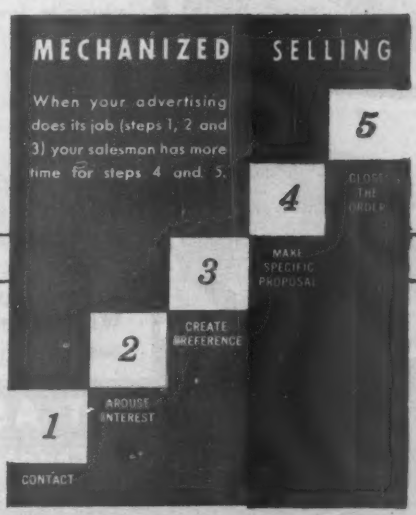
weren't in a hurry!

. . . but today's sales problems can't wait!

Mechanization is also the way to give express elevator impetus to modern industrial sales programs. Progressive management is turning more and more to MECHANIZED SELLING, which uses the high speed and low cost of ADVERTISING to perform the preliminary and intermediate steps along the way to a sale.

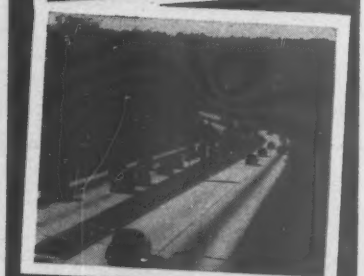
A tireless assistant to your salesman, MECHANIZED SELLING performs the vital services of making sales contacts, arousing interest, and creating preference for your product. This leaves your salesman free to concentrate more of his limited working time and specialized abilities on the *two* final sales jobs—making a specific proposal and closing the order. All, of course, at lower unit costs per sale to you!

***Mechanized Selling at Work** is the McGraw-Hill booklet which demonstrates how advertising can cut selling costs by saving selling time. Now McGraw-Hill has published another booklet, **Orders and How They Grow**, directed to the man who can use it best—the salesman. You will want to read it, too. Ask your McGraw-Hill man for a copy, or write us now.*



330 WEST 42nd STREET, NEW YORK 18, N. Y.

Your guidepost to wise Low-Annual-Cost Construction



BUILD IT with CONCRETE

CONSTRUCTION that is moderate in first cost and that lasts long years with little maintenance expense is a wise investment because it is *low-annual-cost* construction. Concrete meets all these requirements. Besides, it's firesafe; it can't burn!

Concrete homes, of any style or size, provide a lifetime of comfortable living at *low annual cost*. Schools, hospitals, apartment houses, factories, public and commercial buildings can be built economically, durably and distinctively with concrete.

Concrete farm buildings and improvements, being firesafe, ratproof, decay-proof, wind and weather resistant, help farmers save feed and labor and increase food supplies.

Concrete pavements serve for years at *low annual cost* to taxpayers and usually cost less to build than other pavements of equal load-carrying capacity.

Concrete pipelines in water, drainage and sewer systems safeguard health and serve home and industry economically by bringing in fresh water and removing wastes.

So whatever you plan to build, let your guidepost be "Build It With Concrete"—the *low-annual-cost* construction material.

PORTLAND CEMENT ASSOCIATION

33 W. Grand Avenue, Chicago 10, Illinois

A national organization to improve and extend the uses of portland cement and concrete through scientific research and engineering field work

demand for time finally exceeds the supply.

• **Cost Problem**—Program cost is another headache which telecasters have to face. For a national advertiser, this cost breaks down into three parts:

(1) The cost of the telecasting itself. Television stations are expensive to build and operate—so, naturally, air-time costs come high.

(2) The network cost. Using American Telephone & Telegraph Co.'s monthly rates for eight-hour-a-day transmission of video broadcasts by coaxial cable, the cost is roughly 18 times the cost of radio-network transmission. Western Union's rates, filed for service between New York and Philadelphia by microwave relay, are slightly higher.

(3) The cost of the program itself. Scenery, costumes, and rehearsals take a fat wallet. Covering a sports event by radio usually means three men and some simple equipment; for a telecast of the same event, 12 men and a lot of heavy, delicate equipment.

Taking these three items into account, Curtis estimates that a television program will cost a sponsor from five to 10 times as much as a radio program of the same length. Costs, of course, will come down as the industry gets more familiar with the tricks of the trade.

• **More Problems**—There are many other problems television must face. One is the matter of property rights in telecasts: NBC, for instance, recently threatened suit against a New York theater that wanted to pick up and project on its screen an NBC-televised sports event.

Then there's the complicated question of the relationship between TV and the movies. Among the problems involved here: Will the movie companies allow their new pictures to be televised? (So far, they haven't; only old releases have been permitted on the air.) Will they make special movies, specifically for television? And what effect will the fact that some movie companies are going into TV on their own have on the rest of the industry?

• **Bigger Than Radio?**—But despite these and other troubles, Curtis can't see any reason why the television industry shouldn't develop into a much bigger boy than its older brother, radio.

FCC has laid out air space for 955 stations in the present wave band; fewer than 20% of these have been allotted so far. And there will be room for a lot more if TV goes into the higher frequencies. So it's likely that, within the next few years, the medium will be able to reach almost any spot in the country.

• **Pay Off**—Many telecasters, such as NBC, don't expect to see any black ink until at least 1951. But the payoff could be big when it comes. And for the manufacturers, on whom Curtis has set its sights in the current presentation, the payoff is already here.

Selling Through Service

A store that has nothing for sale has been opened in White Plains, N. Y., to boost the sale of Alexander Smith rugs and carpets. The Clara Dudley Workshop offers homemakers complete home-decorating advice, "from the floor up." Expert Smith decorators help each customer choose colors and fabrics for an entire room, including rug (Smith's), draperies, curtains, slipcovers, and wallpaper. At the end of the consultation, which costs $1, the customer gets a portfolio containing color-samples and swatches of the things she has selected—and a list of dealers in her community from which they may be bought. If she buys a Smith rug, she gets her dollar back. Six paint companies, five wallpaper manufacturers, and 13 fabric makers are cooperating in the venture.

PROMOTING WEEKLY PAPERS

It's a rare weekly newspaper that, itself, can do a thorough job of selling to national and regional advertisers. So the growth of networks of small publishers for this task has been natural. But few last very long. Many break up in squabbles or fade away in a cloud of inertia.

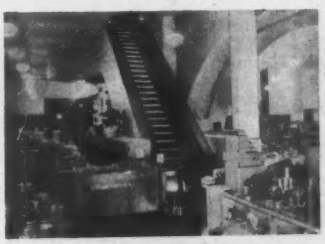
One that hasn't is Pacific Slope Newspapers, Inc. This week, nearing the end of its fifth year, it reported some solid results: It now covers 609 weekly newspapers in Washington, Idaho, and Montana. Space sales through the network this year will come close to $500,000.

Pacific Slope is owned by the publishers. Its advertising director is William P. Nelson. His main sales point for the weeklies: their thorough coverage of community or county. To back it up, the network offers market data, community by community and market by market. It also offers one-order, one-check service to simplify an advertiser's problem in placing copy with many individual papers.

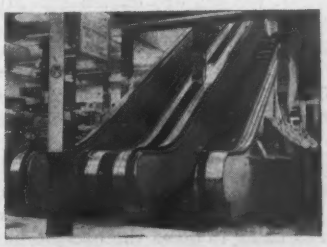
Only $8.71 a day

Any store can easily afford the New Otis "32R" Escalator.

SPECIALTY STORES that find it impossible or too expensive to expand at street-level can now use less expensive second floor space. OTIS "32R" Escalators provide attractive street-level accessibility.



DEPARTMENT STORES can now distribute customer traffic more evenly over the entire store with OTIS "32R" Escalators. Merchandise can be strategically high-spotted at landing areas. Escalator-viewed displays can be used to attract customers to surrounding areas.



CHAIN STORES can now provide the vertical transportation needed to match the merchandising capacity of the basement. OTIS "32R" Escalators can easily carry one person per hour for every five square feet of sales area during peak shopping periods — inexpensively.

Complete amortization — which includes principal reduction, interest, liability insurance, power consumption and upkeep — can be as little as $3.71 a day for a new OTIS "32R" Escalator.®

This represents a 33% reduction from the price of our former two-foot Escalator. The reason? The new OTIS "32R" Escalator has been specifically designed for quantity production. Its maximum rise is 23 feet. Its width is 32" measured 5" below the handrail. That's width where you need it to carry a mother and child comfortably. Its supporting structure is 25% lighter, more compact. Its drive machine is self-contained. And its installation takes less time and is less disturbing to surrounding sales areas.

The new OTIS "32R" Escalator is the equal of any Escalator in safety, in attractiveness and in ruggedness that makes for long life and low maintenance. And further, its rated capacity of 5,000 customers an hour, is 25% greater than a two-foot moving stairway.

FREE! If you'd like to know the dimensions of the new "32R" Escalator and see how compactly it can be installed in your building, you'll be interested in Otis Bulletin B-700-I. Write for your copy. Address: Otis Elevator Company, 260 11th Ave., New York 1, N. Y.

Otis

"32 R"

ESCALATOR

"Escalator" is a registered trade mark of the Otis Elevator Company. Only Otis makes Escalators.

UNSEEN SOURCE OF COMFORT

To Keep Your Feet Warm

Ever drive on a brisk winter day, perfectly comfortable except for your feet?

When fans or blower wheels circulate *enough air to the right spots,* the car heater keeps every rider comfortably warm — from head to foot.

This is *another* place where Torrington *Vairified*® Air Impellers pay big dividends. Regardless of size, *Vairified* Air Impellers are designed and engineered in accordance with aerodynamic principles to circulate a maximum amount of air with a minimum of power. And, in car heaters to do it quietly, winter after winter.

In any type of heating, cooling or ventilating equipment, *Vairified* Air Impellers are your assurance of quality and performance. Whether you make, sell or buy such equipment, you'll benefit from the advantages provided by *Vairified* Air Impellers.

Sales engineers in all principal cities.

*Vairified . . . aerodynamically designed for maximum operating efficiency with quietness; guaranteed to perform as rated under NAFM or NEMA Codes; individually gauged for alignment; dynagraphically balanced. The Torrington Manufacturing Co.

THE TORRINGTON MANUFACTURING COMPANY
TORRINGTON CONNECTICUT

TRUCKLOADS OF TOMATOES rolling into a Hunt Foods plant testify that this . . .

Regional Food-Packer Hits Big Time

Hunt Foods, big western packer, gains manufacturing foothold in East to give new zip to its entry in the national field.

For the eighth time in five years, last week, Norton Simon bought control of a food-packing company. His Hunt Foods, Inc., bought E. Pritchard, Inc., 70-year-old New Jersey packer. Pritchard's Pride of the Farm label is known from Maine to Florida, and the purchase shows how far Simon has come in the Coast-to-Coast competition.

• **Eastward Ho!**—Tomatoes and other fruits and vegetables have been moving into Hunt Foods plants in the West at a rising tempo since 1943. The company operates 18 plants in that area. Now Simon's newest purchase gives him a manufacturing foothold on the eastern seaboard. He has had one in the Midwest since he bought Harbauer Co. of Toledo this summer.

Today, Hunt Foods is one of the nation's four largest fruit and vegetable canners (Libby, McNeill & Libby; California Packing Corp., and Stokely Van-Camp, Inc., are the others). In 1948, Hunt plants will sell well over $50-million of food, spend more than $3-million in advertising to boost the two products which the company already distributes throughout the nation: tomato sauce and cling peaches.

• **An Early Start**—The way Hunt Foods got so far so fast is typical of the way Simon has operated since he left college in 1924 to enter the steel scrap business.

At 19 he had his own business. At 23 he invested $35,000 in a rundown orange juice plant at Fullerton, Calif., which became Val-Vita Food Products, Inc., the next year.

Then for ten years, on a small scale, Simon worked out his pattern: Buy, consolidate, expand, diversify. Val-Vita bought twelve more fruit and vegetable canneries. It consolidated their equipment in the Fullerton plant. Val-Vita's products, aimed at a price-conscious market, grew to an entire line.

• **Enter Hunt**—One western concern Simon particularly wanted was Hunt Brothers Co.; this had been a leading Northern California canned-fruit packer since 1890.

Weakened by the depression, Hunt Brothers was in poor financial shape when Simon set out to take it over in 1941. By February, 1943, he was Hunt's largest stockholder and president.

For two years Simon and his corps of young executives were busy keeping production abreast of military and civilian demands. At the same time, they were integrating Hunt Brothers and Val-Vita into one firm, Hunt Foods, Inc.

• **Climbing Again**—Then in 1945 Hunt Foods started sprouting out again. In three years it had absorbed five western companies: Fontant Food Products; Rocky Mountain Packing Corp.; California Conserving Co.; Guggenhime & Co.; Drew Canning Co.

By this time, Hunt had the diversification that Simon wanted—90 products in all.

• **National Arena**—In late 1946 the company began to invade the national mar-

ket with a product never before marketed nationally, never before strongly promoted—tomato sauce.

Through its 65 eastern brokers and 165 Hunt salesmen in the West and Southwest, the tomato sauce won national placement in a few months. A $1.5-million magazine and outdoor campaign cemented sales in 1947. Markets like New York City, where there are sizable Latin populations, proved a natural: The sauce was on sale in as many as 45% of the outlets, in a few months.

• **Resentment**—This market was won in spite of considerable opposition from Eastern wholesalers. Their dislike for Hunt dated from 1946. That year, in the closing days of price control, Hunt placed large contracts with the wholesalers "subject to price at date of delivery." By delivery time, price control was gone, and Hunt quoted a high price. Competitors quoted lower prices, but Hunt forced the wholesalers to accept delivery, sometimes by court action.

But heavy Hunt promotion carried the day. Early this year the canner nearly doubled its 1947 advertising expenditures by buying the largest magazine-advertising campaign ever to back a single product. It was a full-color page every week in Life for 52 weeks, supplemented by space in five other national magazines.

High-pressure advertising wasn't the only reason for Hunt's success in crashing the national market. Some of the credit goes to a $7-million modernization and expansion plan, blueprinted for Hunt plants before 1950. The $2.5-million modernization that Hunt started in its peach-packing plants last year was one reason Hunt peaches could be had this year at competitive prices.

• **Making Cans**—Hunt's greatest production innovation is its least publicized. That's making cans at the packing plant. In Hunt's two largest plants—at Hayward and Fullerton, Calif.—Atlas Imperial Diesel Engine Co. (in which Simon is the biggest individual stockholder) is stamping out 250-million cans annually. Atlas Imperial was once primarily a manufacturer of diesel engines for marine and industrial purposes. Now it's concentrating on cans and can-making machinery.

There is no wall separating the canning and the can-making plants in either city. Cans and fruit flow down their separate straight production lines to a mutually profitable marriage.

Profits have made Hunt's production and promotion splurge possible. In 1946 Hunt showed a $4,088,815 profit on sales of $48,353,732. Caught between grocers' reduced inventories and higher production costs, Hunt showed only a $2,714,778 profit last year on sales of $46,276,702. When this fiscal year ends Nov. 30, Hunt expects a better showing in 1948 both in profit and sales.

FOR product engineers and designers, the unsurpassed versatility and dependable uniformity of Durez phenolic plastics offer a vast storehouse of solutions to design, structural, and production problems. An example of versatility is in impact strength. This is available in Durez compounds in a wide range to fit many applications. Emphasis on strength is obtained through manipulation in structure without undue sacrifice of heat resistance, self-insulation, surface lustre, and other wanted properties.

The molded parts shown here suggest the many industrial services that *impact strength* Durez is performing. Your products may or may not require the highest degree of strength for long-life expectancy. Yet it is well to know that real ruggedness can be had with the simplicity and speed of molding.

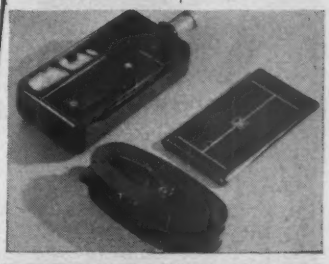
"Durez Plastics News" can keep you advised each month of what other manufacturers are accomplishing with Durez. Let us send it to you.

Durez Plastics & Chemicals, Inc., 4010 Walck Road, North Tonawanda, N. Y.

Export Agents: Omni Products Corp., 460 Fourth Avenue, New York 16, N. Y.

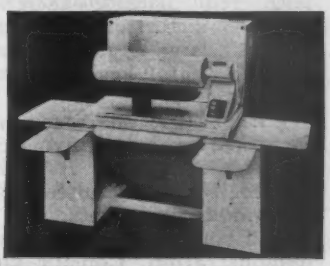
USE DUREZ FOR RUGGED SERVICE AND "Long-Life Expectancy"

TEXTILE MACHINE TENSION PULLEY



TIRE INSPECTOR LOCATING HEAD

MAGNETO PARTS



IRONER FEEDBOARD and CONTROLS

TEXTILE MACHINE tension pulley is a molded shell of medium-impact Durez, fitted with metal shields and mounted on a deep-groove metal ball bearing. Non-corrosiveness, light weight, and moldability are desirable properties that supplement the impact resistance of Durez in textile machinery.

TIRE INSPECTOR locating head serves to spot bits of metal imbedded in rubber. Self-insulation in the material is the primary requisite. Impact-resistant Durez combines this with strength needed to withstand rough service in garages.

MAGNETO PARTS requiring metal inserts are best made of a plastic material with a flexible set that will not crack around the inserts. Measuring high in all needed properties, one of the high-impact Durez compounds is widely used in this service.

IRONER FORMING TABLE of Durez emerges from die with molded-in finish over which damp clothes will slide easily and smoothly. Impact strength of this plastic enables the table to take hard wash-day abuse. Easy moldability and dielectric properties are duplicated in the Durez thermostat dial knobs, shaft, and brackets.

DUREZ

PHENOLIC RESINS

MOLDING COMPOUNDS
INDUSTRIAL RESINS
PROTECTIVE COATING RESINS

PHENOLIC PLASTICS THAT FIT THE JOB

"Victors are a must!"

says J. W. MILLER, President of
MID-CONTINENT AIRLINES, INC.

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Add, subtract, multiply, or compute credit balance—there's a versatile Victor for every business . . . large or small. Choice of ten-key or full-keyboard, hand or electric models.

Cushioned feather-touch keys for speed, accuracy. Anyone can operate. Compact . . . easily carried. Fully guaranteed. Nationwide service points.

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Address _____
City _____ State _____

Octane Booster Goes on Trial

The Vitameter can raise the octane count and ease oil company load. But will the public take to it?

A $29.90 gadget called the Vitameter is smack in the middle of a growing controversy between the auto and oil industries.

• **High-Compression Engines**—Vitameter is an alcohol-water injector developed by Thompson-Toledo Vitameter Corp., a wholly owned subsidiary of Cleveland's Thompson Products, Inc. The hopes it has aroused result from this problem: How can the oil industry turn out enough high-octane gasoline to take care of the high-compression engines which Detroit is developing (BW—Sep. 25'48,p36).

The car makers have been pounding at the oil people to get going on refineries that will supply fuel in the 90- to 95-octane range. (88-octane is about the best they're doing now.) But the industry figures that it will cost about $4.5-billion to supply the amount that will be needed.

• **Way Out?**—So a number of oil companies have pounced joyfully on the fuel-saving Vitameter as a way out. One of them has even approached General Motors about getting together with Thompson on the whole problem of fuel for high-compression engines. And some car makers have been testing the Vitameter.

But the auto industry as a whole is dubious. It isn't at all sure that Vitameter can get the stamp of public approval.

• **How It Works**—Vitameter shoots a liquid trade-named Vitol into the manifold of an engine. Vitol consists of 85% alcohol, 15% water, some tetraethyl lead, and an inhibitor to check corrosion. The whole operation resembles that used with such a roaring success on military planes. In any car, Thompson claims, it produces even combustion, hushes engine knock, saves fuel, gives maximum power.

Reason for this is that Vitameter injects its fuel (a coolant) only when it's needed. That means only when the engine is laboring, 5% or 10% of the time that the average engine operates. Rest of the time the engine operates on regular unleaded gasoline.

• **Development**—Vitameter furnishes an anti-knock quality to gasoline which is equivalent to raising the octane rating. (It is said to raise the octane count by 10 to 20 numbers.) Frederick Crawford, Thompson's earthy president, puts it: "Get the lead out of your gas and use Vitameter."

VITAMETER, squirts Vitol alcohol-water mix into the manifold of car engine

His new product is no sudden brainstorm. Thompson has been working on it some nine years (BW—Mar.24'45, p64). Its field tests on truck and cab fleets, according to Thompson, have shown that Vitameter: (1) effects substantial savings in fuel consumption; (2) keeps engines cleaner through the use of unleaded gasoline.

• **Pro and Con**—Proponents cite these and other advantages. They stress that widespread use of alcohol-water injection would help save oil reserves, since low-octane gas takes less crude oil to produce than high-octane.

But most of the car makers take a different view. They point out that motorists will have to fool around with two kinds of fuel, even if they do need a gallon of Vitol (at $1.25) only every 500 to 700 mi. They figure that drivers may ignore the stuff and perhaps ruin their high-compression engines.

• **Columbus Test**—Consequently, the car makers, as well as the oil industry, have their eyes on the outcome of a large-scale marketing test for Vitameter that Thompson is now running off in the Columbus area. The public attitude there may decide the whole future of alcohol-water injectors.

Thompson is now rounding out the fourth week of its 90-day test. So far the company is satisfied. By last week some 2,500 Vitameters had been sold and installed, and the company is certain that before the test is over sales will hit 7,500.

Vitameter is being sold through car dealers, garages, and repair shops, which make a slight charge for installation. To date, owners of higher-price cars have been the best market. But actually users of straight-run gas who make a lot of

▶ Because of its able management, Pacific Intermountain Express Company has become one of the nation's major freight carriers—a dependable transportation link connecting San Francisco, Los Angeles and Salt Lake City with Denver, Kansas City, St. Louis and Chicago.

11% MORE REVENUE

with bodies of Kaiser Aluminum!

Here's proof that trailer and truck bodies made of Kaiser Aluminum can increase *your* profits:

On one of the toughest long hauls in the nation—the 1308 tortuous miles between Oakland and Denver—P-I-E carries an average of 11 per cent *more* cargo in its units built of Kaiser Aluminum than in those made of other materials.

Why? Because P-I-E's semi-trailers built by Brown Industries of Spokane, Washington, using Kaiser Aluminum, weigh an average of *two tons less!*

But P-I-E is dollars ahead in many other ways, too!

For instance, maintenance problems are far fewer. And repairs are accomplished quickly, easily and economically with equipment readily available in most shops.

And in case of accidents, the high tensile strength of Kaiser Aluminum, combined with its resiliency, gives cargoes maximum protection.

So, before you buy or build again—whether it's trucks, trailers or busses—call in a Permanente engineer. He can help you find ways to increase *your* profits by specifying construction with Kaiser Aluminum!

Kaiser Aluminum

product of Permanente Metals Corp.

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Seattle • Spokane • St. Louis • Wichita

Like Profitable Figures?

READ THESE! On the Oakland-Denver run, total weight of a P-I-E tractor, semi-trailer and cargo cannot legally exceed 34.4 tons. In P-I-E semis built by Brown Industries, using Kaiser Aluminum, a total payload of 20 tons is possible after accounting for the weight of the carrier. P-I-E can carry only 18 tons of payload in its other units—for they're made of other materials and weigh an average of *two tons more!* P-I-E also makes profitable use of semis made of Kaiser Aluminum on its runs from Denver to St. Louis and Chicago. Apply these figures to your operation. *You'll come out dollars to the good!*

Only $125 and it's a BURROUGHS

8-Column Adding Machine
Capacity 999,999.99

Price-minded? Find out how much *more* you get in this famous Burroughs adding machine . . . more dependability, more lasting accuracy, more value in materials and workmanship . . . for only $125. It's a full-size Burroughs, precision-built to the standards that have made Burroughs the most-used adding machines in the world. Put it to work for you. Call your local Burroughs office or write Burroughs Adding Machine Company, Detroit 32, Michigan.

Prices slightly higher in Canada

WHEREVER THERE'S BUSINESS THERE'S

Burroughs

starts and stops could make best use of the gadget.

• **Plans**—When Thompson first approached oil companies about handling Vitol at retail in their stations, it met a mixed reception. Some backed away, then showed renewed interest when Thompson finally got a nibble. Now Shell, Pure Oil, and Standard of Ohio are handling Vitol (BW—Sep.25'48, p46). And others are interested.

Thompson is already laying marketing plans for Cleveland and Cincinnati when the present test is over. Then it may move along the Ohio River; this will keep transportation costs down, since Vitol is made for Thompson by Allied Oil at Ashland, Ky. After that will come Texas, possibly California, since alcohol is easily available, in both areas.

MARKETING BRIEFS

INDEPENDENT RETAILERS' September sales gained 4% on August, 4% on the previous September. Soft goods were up, durables down a touch.

MERCURY RECORDS paid $142,000 for the assets of Majestic Records.

ANTITRUST SUITS against plumbing supply groups: in Denver first; in Philadelphia and Los Angeles last week. Justice wants to dissolve local trade groups, end alleged price agreements.

UP WENT PRICES $20 on two Bendix automatic washers last week. New prices are retroactive to Oct. 12.

VACUUM CLEANER factory sales in September (276,137 units) were up 16% over August. But they lagged (1) 15.5% behind September, 1947, and (2) 7.7% for the first nine months vs. the same 1947 period.

NO CONTEST, said five big plant companies last week to two antitrust actions (BW—Jul.31'48,p54). General Paint, American-Marietta, Devoe & Reynolds, Interchemical Corp., and Pittsburgh Plate Glass will pay $42,500 in fines.

MAIL-ORDER SALES of the National Bellas Hess chain were 35% higher this September than last.

SHOE PRICES: International Shoe cut them 5¢ to 25¢ a pair just before the big shoe show in Chicago this week.

OUT THE WINDOW went the proposed $7-million Harrison (N. Y.) shopping center last week. Boston's Conant Real Estate Trust pulled out when the town couldn't agree on rezoning.

"He just made 100 runs!"

It sounds improbable, but you can do it . . . in cricket. They call it a "Century." But you don't have to travel abroad to see how baseball's British counterpart is played. In Philadelphia, cricket matches are held regularly.

Perhaps you think of Philadelphia chiefly as host to the Army-Navy game, or in connection with huge baseball and basketball crowds. Interest in cricket is just one example of Philadelphia's *special* customs and characteristics. If you're doing business here, in America's third largest market, you can profit by understanding these ways. And we at The Pennsylvania Company will be glad to share with you our intimate knowledge of the community.

Among the clients who use our services are thousands of small businesses—as well as two out of three of all the nation's largest corporations. Chances are we can help your Philadelphia operation run smoothly too.

Our officers are alert and modern-minded. Our 18 offices cover the city and suburbs, so that one is sure to be near your plant or branch office, to simplify payroll and all banking routines. Heavy use of air mail expedites check clearances and our transit department operates 24 hours a day.

You'll find our great store of business and financial records useful, too. In fact we stand ready to help in every way to make you a welcome member of the great Philadelphia business community. You can find out more about this co-operation if you drop us a line. Or we'll be pleased to arrange a meeting with you or your representatives any time you say.

18 OFFICES

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"Give us the tools . . ."

TO SURVIVE

America Must Have Better Tools

In the past twenty years the United States has failed to provide its workers with enough new tools and equipment.

To most Americans this statement will come as a shock—or will be doubted. We are quite complacent about our industrial equipment, for easily understood reasons.

Throughout the '30s we heard continuously the propaganda line that the United States had become a "mature economy." The job of equipping America with industrial plants and tools was said to be largely done.

Now, knowing that industry is spending billions to expand and rebuild its plants, many people assume that the result must be a first-class industrial system.

A further powerful inducement to complacency is the vastly *worse* industrial condition of most of the rest of the world. When Americans look abroad in almost any direction they see shattered plants and equipment. A natural reaction is that we are sitting pretty.

That is a dangerous reaction. Between depression and war, we have failed to build the tools and equipment we need. This condition is dangerous for three reasons:

1. *From bitter experience we know that national security depends first and foremost on the capacity and readiness of our industrial equipment.*

All of our plans for stabilizing prosperity assume a world at peace. The greatest menace to peace would be an unarmed America, unable or unwilling to keep herself strong and ready for defense—strong in spirit, in resources and in the all-important industrial plant and equipment.

2. *Whether Americans live well—or badly—depends directly on the kind and quality of tools used by American workmen.*

This is true for all workers, and for every worker—from a garage mechanic and his wrenches to a steel mill gang and its rolling equipment. In a monumental study of "America's Needs and Resources" the Twentieth Century Fund found this fact: The improvement in the real income of the American people has more consistently followed the amount of power used in industry than anything else. What the workman worked *with* determined, more than any other factor, the size of his pay envelope, and what it would buy.

3. *Our success in stabilizing prosperity will depend largely on what we do about building new tools and equipment.*

About 30% of our industrial workers are employed in producing tools and equipment. Steady employment for them is essential to our over-all prosperity.

How far have we fallen behind in providing new plants and equipment?

Estimates vary. Here is one rough estimate: If we had built new industrial facilities during 1930-48 at the rate we did in the prosperous '20s, we would have spent at least $100 billion more than actually we did.

To get a better and more complete measure of this deficit, McGraw-Hill is undertaking a survey of American Business' Needs for New Plant and Equipment.

Businessmen all over the nation are being asked to answer questions like this: How much money would you need to put your plant in first class condition? How much are you planning to spend for new plant

and equipment? Where do you expect to raise the money? The results will be reported later in this editorial series. Already the survey shows we have fallen many billions of dollars behind.

Some shortcomings are apparent to everyone. They are revealed in a lot of rickety transportation facilities and in run-down buildings.

Many other deficiencies do not come into general view. They are, for example, the antiquated machines in our plants. Of the privately-owned machine tools in use in 1945—when the last census of metalworking equipment was made by AMERICAN MACHINIST—54% were more than 10 years old. Their average age is higher today.

It is true that in recent years we have hit new highs in total national production. But we have done so by putting far more people to work than ever worked before . . . and by driving equipment to the limit of its waning endurance, sometimes beyond. It has not been done *primarily* in what is by all odds the best way to increase production—to use more and better and more modern tools and equipment.

Haven't we overcome much of this twenty-year deficit by rushing to build new plants since the end of the war?

No. For two clear-cut reasons.

1. The accumulated shortage is tremendous. The total of about $40 billion, which has been spent for industrial plant and equipment since VJ-Day, has not wiped it out.

2. Some key industries have had difficulty in getting the facilities they need. Take steel, for example—the industry that turns out our most basic industrial material. Its needs for new equipment are measured in billions of dollars. To pay for that equipment, it should have *risk capital*—money which people are willing to invest with a risk of losing for the sake of gain. For steel is an up-and-down industry. Earnings on its common stocks inevitably share both ways in those ups-and-downs.

Since the war, steel, in common with most of industry, has been unable to market new common stock successfully. Its outstanding stock is now selling for only about one-half the current net worth of the industry's present assets. With investors willing to pay only 50 cents on the dollar for its facilities, the industry can not readily sell stock to pay for *new* plant and equipment—at higher prices even than the old.

Why can't steel—and other industries—attract people who are willing to risk their money retooling America?

The full answer to that serious question must be left to future editorials in this series, for it involves many things . . . tax reform . . . mobilization of small savings . . . a new respect for corporate profits.

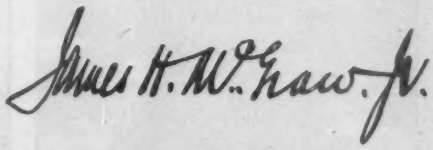
This first editorial seeks simply to emphasize two fundamentals:

First, our standard of living improves with the *quality* of our industrial equipment.

Second, American industry and American workmen badly need billions of dollars worth of better equipment *now*.

The American people must understand that *not only our continued prosperity but also our security as a nation depends upon giving American industry more and better equipment.*

"Give us the tools." This was Winston Churchill's cry for help to win the war. Only if we give American industry new and better tools will we have a chance to win abiding prosperity at home and good order abroad.



President, McGraw-Hill Publishing Company, Inc.

★ THIS EDITORIAL, and a series to follow, will be devoted to a single problem—how to provide American industry with the equipment needed to improve that envy of the world, the American standard of living. No more important problem confronts us today. Upon our wisdom in handling it depends not only the degree of our prosperity, but also our security as a nation.

LABOR

"Human Engineering" Program Pay Of

1 Henry Ford II (left) got a management award this week for Ford's human relations work, directed by John Bugas (right)

2 Ford's program starts with employment through interviews, rather than former, unpopular auto-plant hiring lines

3 An employee record is kept, to help fit worker into right job

4 Indoctrination talks brief newcomers on Ford policies, etc.

5 New employee is introduced to his "boss" (foreman) and union committeeman

6 He gets a health checkup, first step in bringing him under Ford medical program

7 He "meets the company" through one or more of 21 papers for Ford plant employees

yoff for Ford

Employee relations plan has cut labor turnover, work stoppages, grievances—and wins company an award.

The nation's most publicized employee relations program has probably been the Ford Motor Co.'s "human engineering" project. This week, the Society for the Advancement of Management formally recognized Ford efforts to make its plants better places to work. S.A.M. presented its 1948 award for human relations in industry to Henry Ford II, Ford Motor Co. president.

• **Pay-Off**—The award has stirred new interest in the program drafted by John Bugas, Ford's vice-president in charge of industrial relations. The big question is: How has the Ford plan paid off?

Ford officials are firmly convinced that it has.

Here are some of their reasons:

Labor turnover has dropped from 3.8% in 1946 to 2.2% so far this year. (In 1947 it was 2.9%, as against a national manufacturing average of 4.8%.)

Unauthorized work stoppages have dropped from 94 in 1945 to 27 in 1946, 30 in 1947, 15 through July of this year.

Grievances have declined, too. There were 14,260 first-stage grievances in 1946, only 11,207 in 1947.

• **Intangibles**—Officials believe there has been an even greater intangible dividend from the program. That is the better relations resulting from a personalized approach to employees (page 93).

8 He meets fellow workers in Ford recreation, hobby groups (TURN TO PAGE 90)

Blast Furnace Gas Cleaned to Better than .001 for Midwest Steel Plant

RECENTLY Koppers installed a Koppers-Elex Electrostatic Precipitator in a large Midwestern steel plant, to clean 80,000 cubic feet of blast furnace gas per minute from .15 grain in the untreated gas to a maximum residual in the outlet gas of .015 grain. Koppers-Elex Precipitator far exceeded the specifications. Tests made by the purchaser under actual operating conditions showed the gas was cleaned to a residual considerably less than .001 grain per cubic foot.

This superior cleaning performance is typical of Koppers-Elex. Special, adjustable gas distribution through electrostatic fields, and horizontal gas flow provide greater precipitation efficiency. Insulators are protected from excessive dust deposit insuring longer life and less arc-over. Unique weir design provides continuous, uniform irrigation of collecting electrodes, insuring constant removal of precipitated materials without building up. These and many more design features make the Koppers-Elex able to meet and guarantee *any residual content you need!*

Koppers-Elex is designed by Koppers, individually engineered for the specific problem, built entirely in our own plant, by our own workmen, installed by Koppers, guaranteed by Koppers and backed by our 110-year reputation for integrity. For full information on the Koppers-Elex for your industry, check the handy coupon below.

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BUILDINGS ALL TYPES

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* Depending on window and door requirements

HITCH YOUR BUILDING PROGRAM TO

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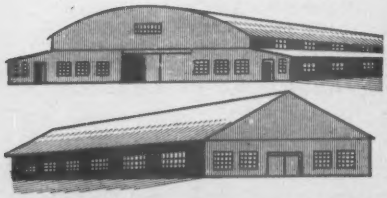
STEEL BUILDINGS



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Write TODAY for more detailed information and cost estimates.

9 He is invited to attend classes: vocational, to help get a better job, or academic

10 Stanley Wesley (left) is one of 900 workers promoted under Ford program

11 When a worker has a grievance, his union committeeman (left) helps fill out a complaint

12 Taking it up with foreman (right) is often all that's necessary to get action

(TURN TO PAGE 93)

THE FASTEST THING IN FASTENINGS

HOW WORTHINGTON Saves 30% IN ASSEMBLY TIME

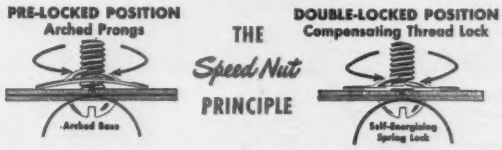
RECENT TIME STUDY TESTS—conducted by the Methods Department of Worthington Pump and Machinery Corporation in their Holyoke, Massachusetts Air Conditioning and Refrigeration plant—prove that SPEED NUTS* can be applied in 30% less time than other fasteners.

Important time savings like this are possible for Worthington because SPEED NUTS . . .

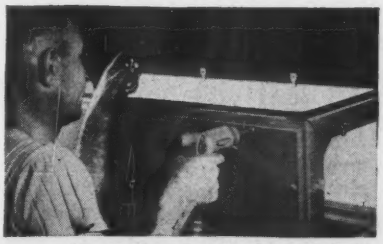
1. **are self-retaining—hold themselves in bolt-receiving position**
2. **eliminate welding, clinching and riveting**
3. **reduce materials handling**
4. **do not clog—save the time required to mask fasteners before painting or tap after painting**
5. **speed up blind assembly attachments by compensating for inherent misalignment of holes punched in sheet metal panels.**

Shorter assembly schedules mean more units produced . . . more profit for your company. In many cases, SPEED NUTS improve product quality, save assembly time and money, and insure delivery of product in good condition. Write us for details on our Fastening Analysis Service or contact your Tinnerman representative. He's listed in major city telephone directories. Tinnerman Products, Inc., Cleveland 13, Ohio.

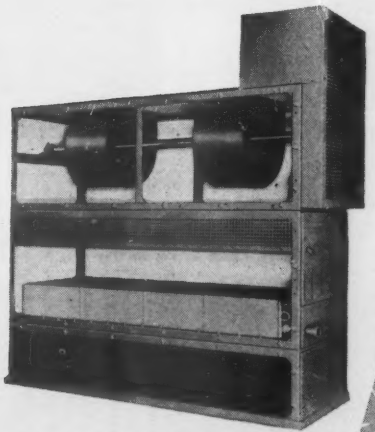
In Canada: Dominion Fasteners Limited, Hamilton • *In England:* Simmonds Aerocessories, Ltd., Treforest • *In France:* Aerocessoires Simmonds, S. A. Paris



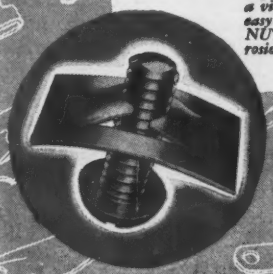
Assembler aligning panel hole with SPEED NUT prior to inserting bolt—a simple, quick operation.



Zip . . . zip and the panel is secured with a vibration-proof attachment. Panels are easy to remove for servicing of units—SPEED NUTS never "freeze" on threads despite corrosion-producing conditions in these units.



More than 150 SPEED NUTS are used in the assembly of this Worthington Model AVY Commercial Air Conditioner. Panels are removed to show SPEED NUTS in bolt-receiving position.

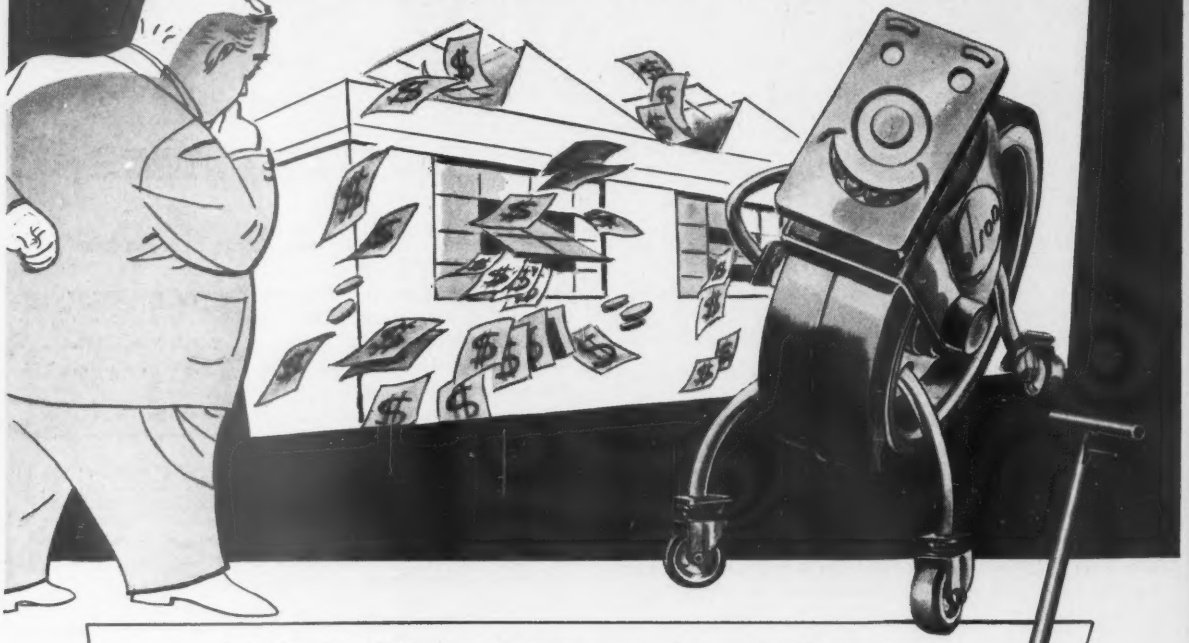


TINNERMAN Speed Nuts

*Trade Mark Reg. U. S. Pat. Off.

MORE THAN 4000 SHAPES AND SIZES

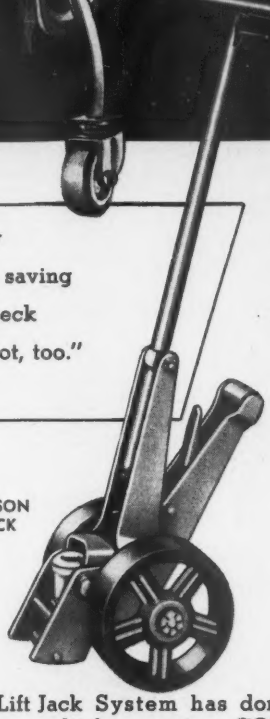
$1,000 A MONTH--
And They Didn't Even Win A Contest!



"No, Mr. President, they didn't win any radio contest. They did it with the COLSON Lift Jack System—averaging a saving of $1130.51* per month over former methods . . . Why not check *your* materials-handling equipment? Maybe you'll hit the jack-pot, too."

Colson

LIFT JACK Systems Save Time, Money, Effort



The COLSON LIFT JACK

*ACTUAL CASE HISTORY—DETAILS ON REQUEST.

What the COLSON Lift Jack System has done for hundreds of plants it can do for you too. COLSON engineers, with years of successful experience in reducing materials-handling costs, are glad to survey *your* plant to determine where the Lift Jack System can be profitably applied to your receiving, warehousing or production line handling operations—no obligation, of course. For detailed information on the Lift Jack or on other load-floating materials-handling equipment by COLSON, write us, or consult the yellow pages of your telephone book for the local COLSON office.

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WHEEL CHAIRS • WHEEL STRETCHERS • INHALATORS • TRAY TRUCKS • DISH TRUCKS • INSTRUMENT TABLES

13 If grievance isn't settled on the spot, union committee takes it up at company grievance meeting. Other stages: a plant review board; if necessary, the Ford-U.A.W. umpire

14 Polls of what workers think of jobs help ferret out causes of dissatisfaction

15 And exit interviews seek reasons for quits. Object: to wipe out irritants

Plan Marks Reversal of Ford Policy

Gulf between employer and employee narrows because personal approach makes worker feel he's not just a cog.

The Ford Motor Co.'s "human engineering" program starts at the moment a man applies for a job at the Rouge (picture, page 88). The old "take-'em-as-they-come" hiring line has gone. Applicants now get separate and private interviews with personnel consultants. Behind this new personalized approach lies the basic principle of Ford's new program: Make the worker feel he's important—not expendable.

• **Broad Gulf**—A look into the past gives the most striking picture of what Ford is trying to do. Under the regime of the late Henry Ford, a broad gulf existed between men in the plants and the people who told them what to do. Workers knew nothing of the factors which prompted front-office decisions. They were treated impersonally, about like the machines they tended.

This Ford policy made the Rouge works a fertile field for organizing by C.I.O.'s United Auto Workers. U.A.W. won bargaining rights and a contract. Thus, Ford became the first company to grant a union shop in the auto industry, first to give the union other major concessions.

But better relations didn't spring from the new pact. The old fight had left scars. The union kept on harping on Harry Bennett's "service department," on company "disinterest" in its

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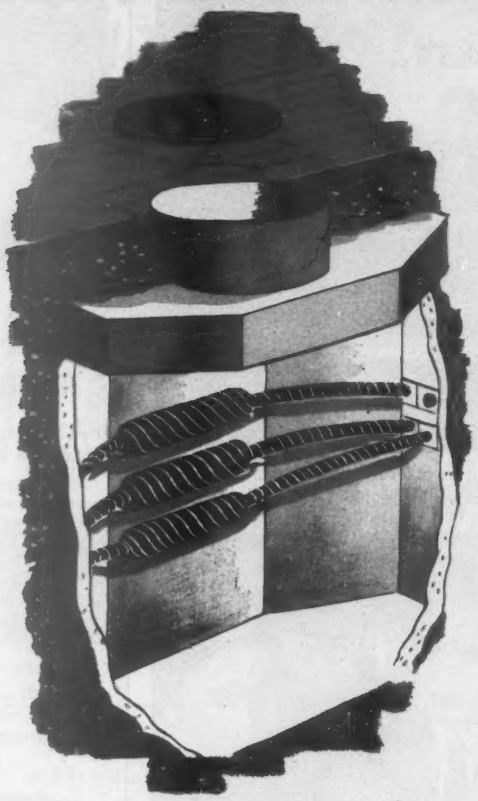

"Last night we worked 'til after two, but bright lights made it seem like day. It's wonderful the way light and power companies deliver electricity to us by cable, at all hours. Dearborn's NO-OX-ID Wrap for cable protection helps. Combines a chemically treated coating with a sturdy wrapper to guard the cable's lead-sheathing. With moisture sealed out, and no corrosion, a cable can keep right on the job."

....The Traveler

MEMO TO PUBLIC SERVICE COMPANIES: When you install cables, our technicians would like to tell you more about the Dearborn discovery, NO-OX-ID Wrap, the corrosion-protective coating for cables that comes in rolls and is so easy to apply.

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workers, on "unfair" promotions and seniority rules.

• **Changeover**—When the new administration headed by Henry Ford II came into power, one of the first centers of housecleaning and new programming was the Service Dept. Unobtrusively, it was changed over into the Ford Industrial Relations Dept. John Bugas, selected to head it, drafted and set into operation the "human engineering" program. In the job, he had the active cooperation of Henry Ford II.

First step was to poll employee opinions on the company and their jobs.

• **Questionnaires**—In October, 1946, 124,700 Ford employees were asked to fill in questionnaires telling what they liked—and disliked—about the company. Some 20% of them complied. Results of the poll were analyzed and circulated —the sour with the sweet—to management and to workers.

Other polls have been taken from time to time. Ford now believes that open airing of problems, which has grown out of publishing results of the polls, is highly important. Bugas characterizes this type of research as fundamental. "It points up areas of discontent," he says. "It brings problems into the open where they can be aired and corrected."

Example: One survey found intense employee dissatisfaction over a no-smoking rule, ironclad up to 1947. It was abolished.

• **Keeping in Touch**—Meanwhile, Ford has been broadening communication avenues to employees (21 plant publications now have a total circulation of 143,000). The aim is to keep workers posted on what the company is doing —and why.

Henry Ford II has written several letters direct to workers to explain company policies and plans. And Ford foremen are kept abreast of company thinking by management letters and bulletins, and through business and dinner meetings.

• **Education**—Worker education is another facet of the new program. The Ford Training Dept. now has a staff of 85 instructors and conference leaders. More than 6,500 employees take part each week—studying everything from trade apprenticeship subjects to post-graduate college work. The twofold object is to help workers (1) qualify for better jobs, or (2) satisfy their yearnings for a better education.

A vocational guidance section of the department directs Ford employees to outside schools and courses which also may lead to better jobs. The company keeps records on how well the employees do in these outside courses. Thus, department and division heads know which employees have acquired the background for promotion.

Ford feels that upgrading and pro-

motion from within the ranks are basic to building employee loyalty. So far, more than 900 hourly rated workers have been upgraded under the new "human engineering" program.

• **Recreation**—A full-scale recreation program has also been developed at Ford. It provides more than 40 different activities in which some 40,000 employees take part each month. Ford also has hobby groups for those not interested in sports.

The company maintains a medical department and a 12-bed hospital at the Rouge plant to keep tabs on the health of employees. A dozen doctors work an around-the-clock schedule.

• **Grievances**—Settling grievances quickly is another important objective. Ford has set up 14 labor-relations offices in its plants, manned by labor-relations specialists with whom employees and union committeemen can get quick audiences. The system has cut the number of disputes (page 89).

All persons leaving Ford employment now go through exit interviews. The object is to find out whether objectionable company policies might be the cause. Many workers have stayed on the job after talking out their "beef." And the company has sometimes changed its policies and rules to do away with some causes for quits when they were coming up too frequently.

LABOR BRIEFS

NEW WAGE INCREASES: Benrus Watch's 7¢ to 550 C.I.O. metalworkers; Monsanto's 10½¢ plus 1½¢ in fringe benefits to 900 A.F.L. chemical workers; Wallpaper Institute of America's 11¢ to 6,000 employees (represented by A.F.L.) in 32 companies.

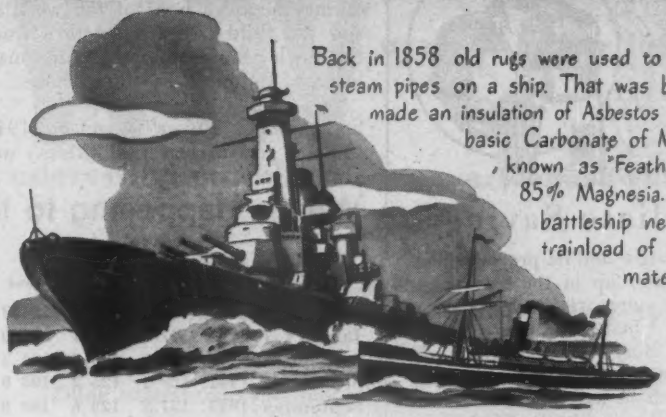
FOUR-MONTH STRIKE against Armstrong Cork's Fulton (N. Y.) plant ended with a better vacation clause, other gains, for C.I.O. textile workers—but no pay hike.

WILDCAT STRIKE of 24 body-trim workers shut down Dodge's assembly line one day last week. Cause: disciplinary layoff of one worker who ran to a time-clock.

TIME-STUDY MEN can belong to a union of production workers. NLRB has rejected Detroit Harvester's arguments that their duties often conflict with union policies (in this case U.A.W.).

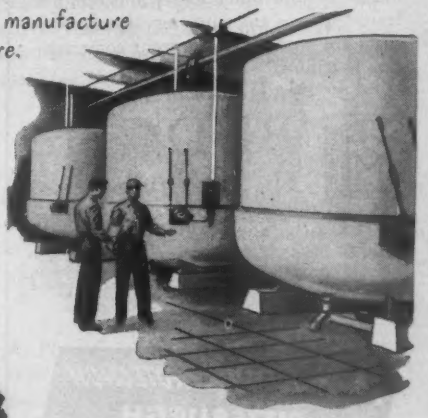
DOCK WORKERS and employers on East Coast are in "essential agreement on wages," according to presidential fact finders. An agreement will probably be signed in time to avert a tieup on Nov. 9—when an 80-day injunction against

How much do you know about *Asbestos?*



Back in 1858 old rugs were used to insulate steam pipes on a ship. That was before K&M made an insulation of Asbestos Fibre and basic Carbonate of Magnesia, known as "Featherweight" 85% Magnesia. Today, one battleship needs a trainload of insulating materials.

These tanks, used in beverage manufacture at a high operating temperature, are insulated with K&M 85% Magnesia. During weekend shutdowns the heat loss is less than 7° a day. That's insulating!



Thousands at New York's World's Fair and since at the Franklin Institute in Philadelphia have seen this snowman sitting cool and collected atop a blazing 600° of heat. "Why doesn't he melt?" they wondered. (see below)

No, it wasn't done with magic . . . or mirrors. The secret of the snowman was a cushion of insulation—a 5½-inch slab of K&M 85% Magnesia and Asbestos Block insulation which so effectively bottled up the heat that the snowman couldn't even warm his toes!

Is it any wonder that so many factories, ships and refineries select K&M "Featherweight" 85% Magnesia for tough insulating jobs? Not only is "Featherweight" an extremely efficient insulation for temperatures up to 600° . . . it is also fireproof, strong and durable. Properly applied, it will last indefinitely without loss of efficiency.

If the insulation in your plant is not what it should be, "Featherweight" 85% Magnesia may hold the answer to the problem. K&M Distributors strategically located throughout the country will gladly survey your set-up and make recommendations. Write us for further details.

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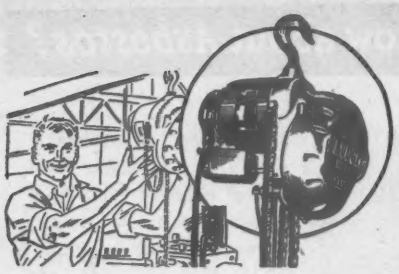

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an A.F.L. longshoremen strike runs out.

CHANCES OF GETTING HURT are "greatest during the third hour of the workday and the third hour after return from the lunch period," study by California's Dept. of Industrial Relations shows.

"DRASTICALLY LOWER" wages are 1949 contract goal of Haverhill (Mass.) women's novelty shoe mills. Reason: poor business. Union will undoubtedly demand a pay hike for bargaining purposes. Aim: to maintain wage levels.

FIRST CONSTITUTION of C.I.O. paperworkers—who have had only a provisional charter—limits officeholders to "those who subscribe to the democratic form of government."

What's Happening to the Cost of Living

	Food	Clothing	Rent	Gas & Elec. tricity	Other Fuels	Ice	House Furnishings	Misc.	Total Cost of Living
August, 1939....	93.5	100.3	104.3	99.0	96.3		100.6	100.0	98.6
January, 1941*..	97.8	100.7	105.0	97.4	104.2		101.1	101.9	100.8
September, 1941.	108.0	106.9	106.3	97.1	109.3		108.9	104.0	106.2
September, 1942.	126.1	125.2	108.0	96.7	115.4		123.0	111.1	117.5
September, 1943.	137.2	129.6	108.0	95.8	119.1		125.9	116.5	123.4
September, 1944.	137.7	139.4	108.2	95.8	123.3		139.3	122.3	126.4
September, 1945.	140.9	146.4	108.3	95.2	127.2		146.0	124.5	129.3
September, 1946.	171.2	161.2	108.7	91.8	135.0		160.0	129.8	144.1
September, 1947.	203.5	187.6	113.6	92.1	156.3		187.5	140.8	163.8
October.....	201.6	189.0	114.9	92.2	157.4		187.8	141.8	163.8
November.....	202.7	190.2	115.2	92.5	160.5		188.9	143.0	164.9
December.....	206.9	191.2	115.4	92.6	162.0		191.4	144.4	167.0
January, 1948...	209.7	192.1	115.9	93.1	165.0		192.3	146.4	168.8
February.....	204.7	195.1	116.0	93.2	165.9		193.0	146.4	167.5
March.....	202.3	196.3	116.3	93.8	166.0		194.9	146.2	166.9
April.....	207.9	196.4	116.3	93.9	166.7		194.7	147.8	169.3
May.....	210.9	197.5	116.7	94.1	168.6		193.6	147.5	170.5
June.....	214.1	196.9	117.0	94.2	170.1		194.8	147.5	171.7
July.....	216.8	197.1	117.3	94.4	174.2		195.9	150.8	173.7
August.....	216.6	199.7	117.7	94.5	191.0†	137.3†	196.3	152.4	174.5
September, 1948.	215.2	201.0	118.5	94.6	191.0†	137.6†	198.1	152.7	174.5

* Base month NWLB's "Little Steel" formula. † Ice grouped with "other fuels" prior to August, 1948.
Data: U. S. Bureau of Labor Statistics; 1935–39 = 100.

Fourth-Round Pressure Looks Sure

True, consumer prices leveled off last month. But wage demands will still follow the recent trend in living costs—up.

After five months of continuous climbing, the Bureau of Labor Statistics consumer price index held fast for a month at Aug. 15th's record high.

• **Fourth-Round Pattern?**—It leveled off at 174.5 for the month ending Sept. 15. Food prices declined slightly (0.6) for the second straight month, but this drop was offset by other c.p.i. increases.

Business economists, watching the index for a clew to next wage demands, had anticipated the leveling of prices (BW–Oct.2'48,p104). They now expect labor's fourth-round demands will be based on the difference in the c.p.i. between its level at the time of the third round, and about where it now stands.

• **A.F.L.'s Intent**—This week, the American Federation of Labor confirmed its intention to ask another wage hike in 1949 contracts. Its economic letter, Labor's Monthly Survey, renewed charges that wage boosts are lagging behind prices. It said the c.-of-l. in August was 35% higher than at the war's end, whereas factory wages for the same period had climbed 29%.

The federation calls this "economic unbalance"—end product of "prices . . . set by management at a level substantially higher than necessary to pay the cost of wage increases."

• **"Cooperation"**—The federation urges management to help end the "economic absurdity" of a wage-price spiral. Its proposal: "union-management cooperation, which has dynamic possibilities of benefits for workers as well as management in the present situation."

There's no indication that by cooperation to "reduce costs and prices" A.F.L. means that it will forego a wage hike in 1949. To the contrary, it calls on management to "cut costs so that wage increases can be given without continuing the price spiral."

Mass Picketing

NLRB says it's illegal. Tough decision has so enraged C.I.O., some wonder if that wasn't the board's intent.

Union leaders have spoken up frequently in recent weeks against "harsh" decisions by the National Labor Relations Board. This week they really let fly at NLRB over its latest Taft-Hartley decision dealing with strikers and their leaders.

• **Twin Ruling**—The decision was handed down in the Sunset Line & Twine Co. case (BW—Jan.24'48'p77). NLRB ruled that under the T-H law:

Mass picketing is illegal. The board had indicated this in earlier decisions (BW—Sep.4'48,p98), but had not ruled directly on the point of law.

Responsibility for illegal acts rests jointly on local and international unions. For the first time, NLRB laid down rules for determining who are the agents of a union. The new "agency" rules parallel those previously applied against management, which hold, for instance, that a foreman is an agent of his employer.

NLRB's new crackdown hit the International Longshoremen's & Warehousemen's Union (C.I.O.). The union struck the Sunset plant at Petaluma, Calif., in August, 1947, during a contract renewal dispute. The company insisted that the union reestablish its bargaining rights; this the union couldn't do because I.L.W.U. leaders have not filed non-Communist affidavits. The plant, shutdown for two weeks, was reopened to workers willing to cross picket lines. It has operated steadily since then, on an open-shop basis.

• **What's Coercion?**—Unfair labor charges were filed with NLRB during the first, violent weeks of the walkout. NLRB has now agreed that the striking local (1) "coerced" Sunset employees by mass picketing (200 to 300 pickets and sympathizers blocked entrances to a plant parking-lot) and (2) "intimidated" nonstrikers (by trailing their automobiles and threatening them with physical punishment).

NLRB rejected a charge that pickets violated the T-H law when they "vilified and verbally abused" nonstrikers. Its reasoning: Name-calling isn't coercive and intimidating unless it contains a "threat of reprisal or force, or promise of benefit."

• **Responsibility**—The board held the local and international unions jointly responsible for unfair labor practices on the picket line. It set forth three rules to determine responsibility:

(1) The burden of proof that the per-

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1. Any typist with any standard typewriter can stencil your addresses into Elliott address cards and thus keep your mailing list up-to-date every day.

2. With the Elliott Addressing System a typist can stencil and prepare for filing from four to seven Elliott address cards in the same time it takes to emboss and assemble one old-fashioned card index metal address plate with an old-fashioned embossing machine.

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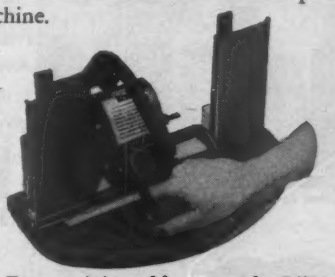
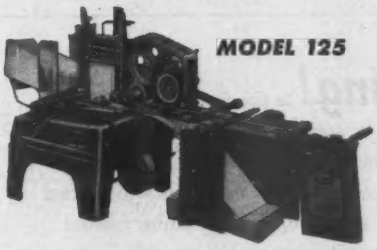


3. For mailing lists of a few hundred names, Elliott offers this new $45.00 Addresserette into which the addresses are tray loaded and tray unloaded 125 at a time.

MODEL 125



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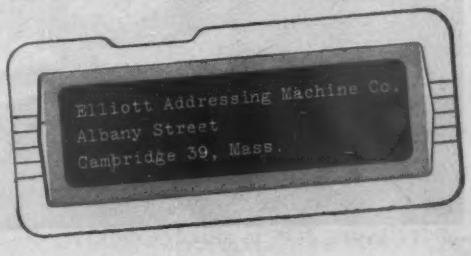

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petrator of an illegal act is a union agent rests on the person who makes the charge.

(2) There must be consent between the agent and the principal (union), but the union's consent may be shown by conduct, passive aquiescence, or words.

(3) The union may be responsible for an act of the agent even though the act may have been specifically forbidden. The test: Was the act within the usual scope of the agent's authority?

NLRB's decision reversed an earlier ruling by Trial Examiner C. W. Whittemore that the union's activities at the Sunset plant were not coercive.

C.I.O. served quick notice that it will force a court test of the decision, which "reflects a partisan interpretation of a partisan act." Furthermore, the ruling "completely exposes the claims of Republican supporters of the Taft-Hartley act that it is a mild law."

• **Politics?**—The bitterness of C.I.O.'s attack touched off political speculation in Washington (page 15). For weeks, decisions by NLRB and its trial examiners had seemed unusually rough on unions. The Sunset decision topped them all. Some observers lifted eyebrows and asked whether NLRB mightn't be trying to stir up the unions against T-H supporters; certainly, the decisions—coming strategically, or by coincidence, just before the election—were doing just that.

But NLRB replied that it is merely interpreting the law as it sees it; decisions are issued as soon as they are completed, and there's nothing political about the timing of recent orders.

PACKERS RAISE PAY

A 4¢ hourly pay hike by Swift & Co. and Wilson & Co. had other major meat packers on the spot this week. The Swift decision to boost wages—under a contract provision for a wage review during October—came as a surprise to the rest of the industry.

Swift boosted pay 4¢ for 8,000 production workers represented by the independent National Brotherhood of Packinghouse Workers. It offered the same raise to the C.I.O. Packinghouse Workers and A.F.L. Amalgamated Meat Cutters. These two unions passed the offer along to local unions for acceptance or rejection by 23,000 workers in 36 plants.

Swift had given a 9¢ third-round increase last spring after a 10-week strike. It announced that the new 4¢ "adjustment" makes the company's 1948 increase conform to the general third-round pattern of about 13¢.

Wilson followed Swift's lead with a 4¢ raise for its employees. It did so without consulting the C.I.O. union; employees have petitioned to have the Packinghouse Workers decertified.

Corporate Earnings Climb to New Records

Company	3rd Quarter Profits 1948	3rd Quarter Profits 1947	9 Months' Profits 1948	9 Months' Profits 1947
	(In Thousands of Dollars)			
Admiral Corp.	$800	$331	$2,038	$1,185
Air Reduction	1,652	1,138	4,697	4,064
American Box Board	219	529	1,199	1,117
American Brake Shoe	1,239	958	3,359	3,525
American Chicle	1,186	1,247	3,559	3,673
American Woolen	2,503	3,367	10,462	11,257
Atlantic Refining	9,900	4,452	26,181	10,837
Barker Brothers	484	513	1,390	1,390
Bayuk Cigars	588	505	1,458	1,818
Beech-Nut Packing	1,347	1,637	3,989	3,626
Bendix Home Appliances	1,197	2,115	3,757	7,127
Budd Co.	2,727	1,318	7,843	4,659
Caterpillar Tractor	4,581	1,849	6,422	5,376
Certain-Teed Products	1,656	1,534	4,843	4,451
Conde Nast Publications	409	552	1,349	2,027
Container Corp.	3,362	2,338	7,578	8,003
Continental Baking	1,838	922	5,038	3,462
Corn Products Refining	2,756	4,119	7,356	13,093
Detroit-Michigan Stove	456	468	1,721	1,700
Eaton Mfg.	2,435	2,058	8,043	5,548
Federal-Mogul	822	433	1,746	1,681
General Baking	2,078	1,122	4,887	2,531
General Electric	29,291	19,665	83,893	62,467
General Foods	6,534	4,463	20,432	12,599
General Steel Castings	886	790	2,447	2,271
Glenmore Distilleries	477	768	1,657	2,887
M. A. Hanna	2,553	2,182	6,502	5,214
Hercules Powder	2,609	2,745	8,329	10,058
Industrial Rayon	3,094	4,441	8,920	10,542
Island Creek Coal	1,975	1,315	4,669	3,178
Johns-Manville	5,237	2,308	10,845	7,498
Libbey-Owens-Ford	2,684	2,309	9,787	8,728
Liggett & Myers Tobacco	9,202	6,170	21,200	16,520
Long-Bell Lumber Co.	3,001	2,980	10,208	8,960
Mathieson Chemical	1,395	566	3,267	2,077
Mengel Co.	384	437	1,613	1,543
Minneapolis-Honeywell Regulator	1,247	1,301	2,932	4,603
Minnesota & Ontario Paper	1,482	1,482	4,543	4,118
Nekoosa-Edwards Paper	137	665	1,709	2,124
New York Air Brake	547	411	1,299	1,180
Norwich Pharmacal	349	184	873	372
Pacific Mills	2,376	2,165	7,818	5,645
Plymouth Oil	1,489	958	4,744	2,505
Portsmouth Steel	1,107	907	3,041	2,941
Republic Steel	12,874	7,805	29,813	23,112
Ruberoid Co.	1,313	1,007	4,022	3,218
St. Regis Paper	3,303	3,359	12,048	11,055
Sharp & Dohme	1,307	1,152	3,140	2,497
Sunshine Biscuits	1,594	1,287	4,895	4,504
Sutherland Paper	501	549	1,602	1,755
Texas Co.	45,350	24,973	113,617	78,396
Underwood Corp.	1,315	1,688	3,840	3,857
Union Carbide & Carbon	26,535	24,042	73,596	54,865
United Biscuit	1,107	1,028	3,526	3,493
United Cigar-Whelan Stores	209	228	545	843
United States Gypsum	6,962	3,968	18,667	11,686
United States Steel	34,599	28,735	88,042	97,306
West Virginia Coal & Coke	1,045	592	1,778	1,466
Worthington Pump & Machinery	1,262	1,564	3,881	4,742
Wm. Wrigley, Jr., Co.	2,908	2,167	8,870	6,058

Third-quarter reports show sales are still outpacing rising costs. 1948 looks like a record year for profits.

Corporate reports for the 1948 third quarter make good reading for stockholders and business generally. Judging by gleanings (table, opposite) from the July-September earnings reports now showering Wall Street, this has been the best third quarter ever for many companies.

• **Sales**—Operating costs and break-even points are still climbing steeply. But so are sales, measured in dollars (thanks, in many cases, to price increases). By a fair margin sales are outpacing the spiraling costs of raw materials, manufacturing, and selling that have been management's bane for so long. So profits have been reaching even higher than their earlier high levels.

But you can't overlook those heavy operating costs and high break-even points in assessing the current corporate-earnings picture. For many companies, they have long since reached heights that demand ever higher sales to support them. And profits of many segments of business would prove mighty vulnerable to even a relatively minor drop in sales volume.

• **Record Year**—However, there's nothing discernible in the nearby outlook to upset BUSINESS WEEK's earlier belief (BW—Jul.31'48,p19) that full 1948 corporate profits are likely to reach a new high of around $20-billion. Last year, the most profitable 12-month period yet in corporate history, profits came short of that figure by some $2.5-billion. Back in 1939 they were barely a third of that.

Not all trades are sharing alike in today's corporate prosperity. Producers of heavy or hard goods are doing better than most industries. Soft goods, on the other hand, are finding the going much rougher. Many concerns in that group have already passed from a sellers' to a buyers' market; others are on their way. Even within some of the trades that are booming there have recently been signs of a softening up of earnings.

• **Oil Gusher**—Still the most spectacular of 1948's corporate profit producers are the oil companies.

Atlantic Refining Co., for example, experienced a 100% rise in profits during the third quarter. Its earnings in the first nine months of 1948 proved 141%

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higher than in the same period of last year. The Texas Co. made almost as good a showing. Its July-September profit was 80% above similar 1947 levels—from less than $25-million to over $45-million. As a result, its net in the first nine months this year jumped to some $113.6-million from only $78.4-million the year before.

Some of the smaller oil concerns tell the same story. Sunray Oil Corp.'s third-quarter net was 63% higher than in 1947; profits showed about the same percentage gain in the January-September period. Plymouth Oil's net, too, was half again as large in the third quarter as last year, and 90% greater in the first nine months.

• **Steel**—Not many third-quarter operating reports have come from steel companies yet. But it's clear from those published that steel is another industry that is showing a lot of strength. In the second quarter, steel earnings suffered from last spring's coal strike. But throughout the July-September period, the industry was free to make all the steel it could. And Wall Street has been betting heavily in recent weeks (page 107) that steel profits in the last half of 1948 are running well above comparable 1947 levels.

Republic Steel (first of the big producers to report) showed July-September sales of almost $197-million, compared with less than $156-million the year before; its profits totaled almost $12.9-million vs. $7.8-million.

Armco Steel Corp. early this week announced $8.3-million of third-quarter profits vs. less than $6-million for the same period of 1947.

• **Chemicals**—The chemical trade has shown equally handsome results—judging by the first reports out.

Pittsburgh's Koppers Co., for one, told stockholders this week that its July-September profits totaled over $3.2-million vs. $1.4-million a year ago. Mathieson Chemical similarly reported a net of some $1.4-million, compared with but $566,000 in 1947. Union Carbide & Carbon can point to profits of $26.5-million vs. around $24-million; Air Reduction reports earnings of $1.6 million against $1.1-million.

Indications are that January-September profits of E. I. du Pont de Nemours came to around $8.36 per common share, compared with only $7.27 in 1947.

Some of the chemical concerns haven't done quite so well. Two of du Pont's Wilmington neighbors, for example, have had smaller profits this year than in 1947. One, Atlas Powder, saw its third-quarter net drop to $367,000 this year from around $456,000 in 1947, and its nine-month profit total shows a similar 35% shrinkage. Hercules Powder, the other, has also reported a somewhat smaller third-quarter

net and a 17% decline in January-September earnings this year.

• **Autos**—Among companies not yet heard from are major units of the automobile industry. But Wall Street is confident that the auto trade is still riding the wave of prosperity; the Street is now circulating some pretty fancy estimates on full year earnings.

Thus, many dopesters expect General Motors' profits this year to run around $9 a share on its common stock vs. 1947's $6.25. Chrysler profits are expected to hit $9, compared with $7.72.

If the recent performances of the Budd Co. and Eaton Mfg. Co. are any criterion, suppliers of the auto industry are doing just as well.

Budd came out with a 107% year-to-year increase in its third-quarter net plus a 70% jump in its January-September profit total. Eaton earnings in the quarter just ended showed a 10% rise over last year; for the nine months they were 44% higher.

• **Building**—Equally good is the word from many companies that have been in on the postwar building boom. Earnings of Johns-Manville Corp. were up 127% in the third quarter, 44% higher in the January-September period. U. S. Gypsum chalked up gains of almost 80% and 60%, while Long Bell Lumber Co. reported a third-quarter net rise from less than $3-million to $3.6-million; nine-month profits soared from $8.9-million to over $10.2-million.

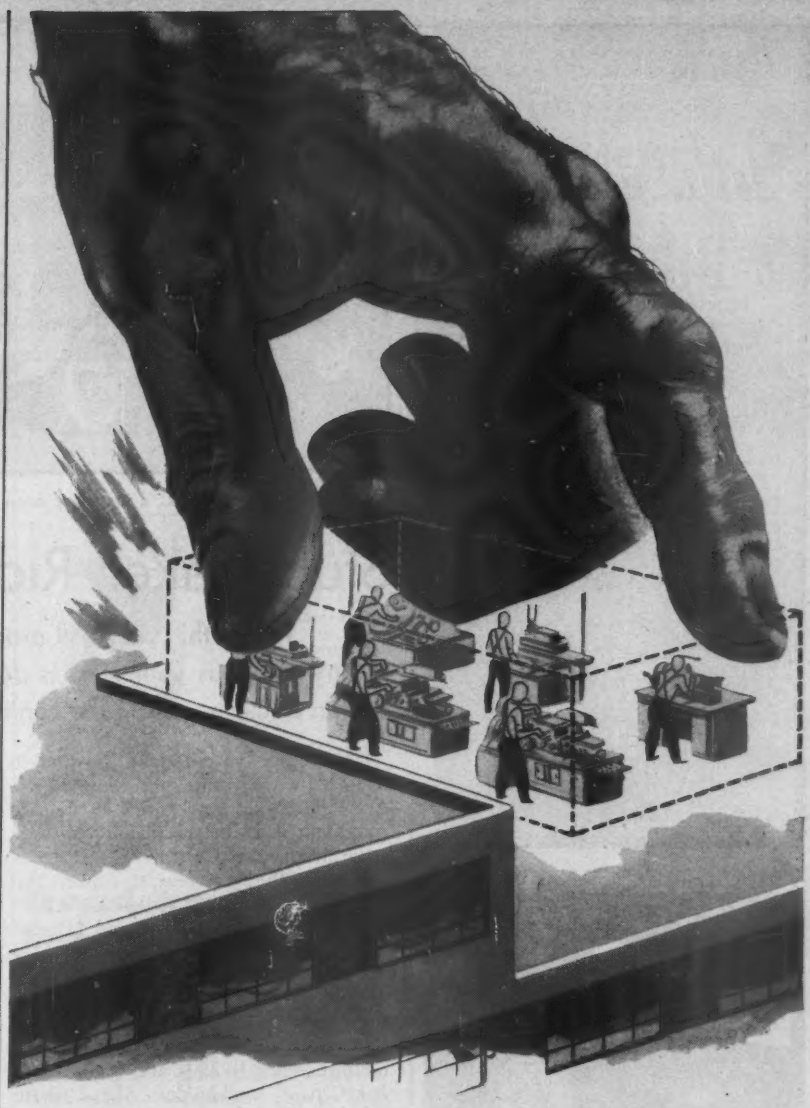
General Electric is another company whose third-quarter earnings are above average. G.E.'s July-September profits this year revealed a jump almost 50% above their 1947 level. Caterpillar Tractor Co. is in the same category; its net showed the extraordinary gain of 148%.

Another star 1948 performer has been Admiral Corp. Its earnings totaled $800,000 in the third quarter, vs. $331,000 in 1947, and over $2-million in the first nine months compared with less than $1.2-million.

Few stockholders can yet expect as hefty a share in their company's earnings as they could have in prewar days. Rising costs mean that business has to keep liberal working-capital balances.

But dollarwise, stockholders won't have any kicks. This is going to be the biggest year since the war for annual dividend disbursements. Such payments have already been running way above last year's totals (page 108). And the best dividend-paying season lies ahead.

Here's why current year-end dividend disbursements are expected to hop well above their 1947 levels: Even where earnings have not reached record proportions this year, they have nonetheless been running at extra high levels; there has been some tapering off in plant and inventory expansion, thus there is less need to maintain abnormal cash balances.



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Studebaker Rides High

Profits this year will probably be 30% higher than those of any previous year. This is due as much to success of postwar design of car as it is to the continuing seller's market.

Most U. S. corporations are due to hang up new earnings records in 1948. But Wall Street expects few of them to ride as high as one particular old-timer—the Studebaker Corp.

• **Record Profits**—Many a broker this week is figuring that Studebaker's 1948 profits will rocket up to around $18-million. That's almost 30% more than the company chalked up in its best previous year, 1928. And it would mean close to $8 a share on its common stock.

All this will mean a handsome dividend showing. In 1946 and 1947, Studebaker paid stockholders 50¢ a share. This year the company has already paid out $1 per share, will probably add another 75¢ to $1 before year's end. That's why Studebaker stock is now selling on the New York Stock Exchange at some $27 a share compared with its earlier 1948 price of $16.12.

• **Competitive Position**—Obviously one big factor in Studebaker's success is the seller's market in the auto field. But equally important is the fact that the company has greatly improved its competitive position. For many years Studebaker production accounted for only 3% of all U. S. cars; today its share runs around 4½%.

This didn't just happen. It grew out of a definite decision made in late 1944 by Studebaker's two top men: Board Chairman Harold S. Vance, and President Paul G. Hoffman. The decision was to take the opposite course from that of the other auto companies. It was made in the two-office suite which Board Chairman Harold S. Vance and President Paul G. Hoffman have shared since 1933 without closing the door between.

• **Production First**—Toward the war's end, the automotive industry bigwigs decided to stand pat on 1942 models—with a few face-lifting changes. This would save the huge costs of reengineering and retooling and would get production rolling sooner. It was clear that there would be several postwar years in which any manufacturer could sell any car that would run.

This course had much to recommend it to the Studebaker Corp. Only a few years earlier receivers had been operating the business. Detroit had been betting, on precedent, that the new company, too, would fold.

• **Precedents**—But Vance and Hoffman are better at smashing precedents than at follow-the-leader. They had pulled Studebaker off the financial rocks in 1935. And now a quick size-up convinced them that their competitors' postwar program would leave a door wide open. Through it Studebaker might profitably drive a car that looked different and carried major engineering improvements.

Said Hoffman, in the privacy of their office, "Let's make our postwar job stand out like a sore thumb. It could do more for us than all the sales effort and advertising imaginable."

Agreed Vance, "Whatever a really new car costs us, if we do it right it's worth every cent."

• **Good Investment**—The cents totted up to $11-million before the new models got into production. But Hoffman and Vance figured today that it was worth it. Studebaker's 1946 model was

practically identical with the 1942 job—to get into production at once. But this model was discontinued in three months and the brand-new 1947 model began rolling off the lines. By the end of 1947, production was running at 191,451 units—58% above 1946, and a new high. And this year output will be even higher.

Company executives cite several reasons for believing that Studebaker can hold its present fraction of the total market—or even do a little better. The biggest gain, and the hardest to measure, is the public's increased regard.

• **Dealer Changes**—Next biggest gain is that the company has upgraded its dealer representation. It has made a small decrease in number of outlets, but a major improvement in financial strength, sales and service facilities, personnel. The old-style regional distributorships have been supplanted with company zone offices that select, franchise, and supervise the dealers.

Financially, too, the company is in a good spot to face the return of old-time competition in the automobile trade (earnings box, page 104).

The Vance-Hoffman policy has been to plow most of the company's earnings back into the business. So since 1938, Studebaker's net worth has increased three-fold—from around $18.2-million to $54.9-million. This growth includes both physical assets and liquid resources. Working capital, for example, is now more than four times as large as it was in 1938. Over the last decade it has actually risen from less than $9-million to around a $40-million level.

• **Wagon Shop**—The industry traditionally has credited Studebaker with making good cars, even as the five Studebaker brothers made good wagons and carriages. Henry and Clement Studebaker, aged respectively 24 and 19, opened the

"BODY DROP" on Studebaker's assembly line joins body and chassis

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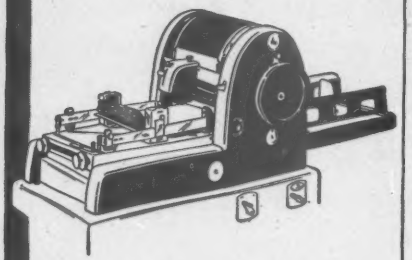

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wagon shop of H. & C. Studebaker in 1852. It stood alongside the railroad tracks in South Bend, where their successors make automobiles today. A younger brother, John M., got into the company for good in 1858. Henry had tired of business, now yearned for farming. J. M. bought him out. Brother Peter, a go-getting merchant in Goshen, Ind., sold out his store and became sales manager in 1860. In 1868, with sales above $350,000, Studebaker Bros. Mfg. Co. was incorporated for $75,000. Shortly after, Brother Jacob F. joined up.

Sales in 1872 were close to $700,000: in 1876 they just missed $1-million. Annual sales averaged well over $2-million through the 80's and 90's, and the company was considered the world's largest maker of horse-drawn vehicles.

In 1897 the firm experimented with a "horseless vehicle." In 1902, sales passed $4-million and the company made 20 electric runabouts. In 1904 volume reached $4.8-million and the line added a five-passenger, two-cylinder, 16-hp. gasoline automobile with chain drive. Studebaker teamed up with a Detroit manufacturer in 1908 to sell the E-M-F car through its branch organization; total sales climbed to $9.6-million by 1910.

• **Autos Climb**—The Studebaker Corp. was organized in 1911, with public sale of stock, to acquire all Studebaker and E-M-F assets. Next year the automobile was renamed "Studebaker." Thereafter, through World War I, the South Bend plants made horse-drawn vehicles and harness, the Detroit plants made motor vehicles.

In 1919 and 1920 the company dropped its old lines to concentrate on automobiles. Expanding these into the South Bend plants added 200 cars daily to capacity.

Studebaker really has had only three managements in its 96 years. The regime of the brothers lasted about 60 years. When J. M. Studebaker, his children, and his nephews sold stock to the public in 1911, the bankers installed Albert R. Erskine as treasurer. By 1915 Erskine was president.

• **Hoffman Comes In**—In 1925 Erskine induced the company's biggest dealer, Paul G. Hoffman of Los Angeles, to come to South Bend to handle sales. Harold S. Vance moved over from sales manager to run the factories. Both of these men were then in their middle 30's.

They teamed together to become Erskine's right hand. Unfortunately, the right hand did not always know what the left hand was doing, or have the power to guide it. Erskine inclined to make his important decisions unhampered by outside advice. He bought Pierce-Arrow Motor Car Co. which was sold subsequently at a loss. Studebaker kept on paying dividends after it got into post-1929 red ink.

• **Collapse**—Finally, Erskine made a deal to buy White Motor Co. and merge it with Studebaker. Studebaker issued several million dollars worth of interest-bearing securities to pay for more than 90% of White's outstanding shares. But the deal collapsed, Studebaker went into receivership in 1933, and Erskine went out.

Federal District Judge Slick named Hoffman and Vance receivers and trustees. Two years later the energetic receivers raised $6.5-million in Wall Street by proving that they could sell automobiles and make money even in a major depression.

• **Recovery**—Emerging from court supervision, Studebaker elected Vance chairman and Hoffman president. They continued in these positions until Hoffman resigned this year to become Economic Cooperation Administrator.

Studebaker has hung up a record for peaceful labor relations unequaled in the squally automobile industry. Basically this seems to rest upon the union's confidence that the two big bosses tell the truth and try to be fair. Both top executives sit in bargaining sessions when major matters are discussed. One result: The average length of service of workers at South Bend is 10 years. They

Studebaker—Its Performance in War and Peace

Year	Sales	Net Profit	Working Capital	Net Worth	Book Value per share of Common
1938	$43,768,621	D$1,762,465	$8,978,479	$18,272,717	$7.97
1939	81,719,106	2,923,251	12,952,934	21,566,268	9.44
1940	84,164,224	2,124,628	12,420,945	23,759,315	10.51
1941	115,700,333	A2,486,397	16,882,113	26,245,711	11.68
1942	221,420,582	A2,048,278	20,480,653	28,294,932	12.88
1943	364,191,211	A2,835,427	22,645,382	31,585,803	14.57
1944	415,745,646	A4,038,116	26,700,485	35,368,716	16.72
1945	212,833,295	3,277,008	33,594,580	40,857,835	17.35
1946	141,564,321	B948,808	29,109,144	40,629,641	17.25
1947	267,998,838	9,127,103	34,834,974	47,991,140	20.37
1948*	278,098,505	13,392,724	39,872,347	54,940,600	23.32

*A—After payment of some $35,900,000 of 1941-44 federal income and excess profits taxes. B—After a $10,510,000 tax carryback credit. D—Deficit. *9 months sales and earnings, working capital, net worth book value as of June 30, 1948.*

bring their sons to get jobs; Studebaker brags of its hundreds of father-and-son teams. The 1947 rate of employment turnover was only 0.67%.

• **Expansion**—In World War II, 165,000 Studebaker military trucks—principally for Russian Lend-Lease—built a big reputation. Hoffman and Vance capitalized on this by pushing truck production as soon as civilian output was permitted. Early this year they bought for $3.6-million the 1-million-sq. ft. government plant in which the company made B-17 airplane engines at South Bend. Into this was moved all truck manufacture, boosting output rate above 80,000 a year—more than six times the best prewar production.

Such purchases, plus equipping a Canadian plant at Hamilton, Ont., have made 1947-48 expenditures for production facilities the heaviest on record, both in dollars and capacity. The adjusted plant-property account rose from the 1944 low of $10-million to $17.7-million at the end of 1945 and to more than $31-million now.

• **Funded Debt**—During the war Studebaker paid off, called, or converted into common stock a total of almost $6-million of funded debt. Now outstanding are a purchase-money mortgage of $2.5-million for the new South Bend plant, and $14-million of 3⅛% sinking-fund debentures due Dec. 1, 1966, held by insurance companies.

New Columbia Head

On Nov. 15 Alden G. Roach will take over as president of Columbia Steel Co., a U. S. Steel Corp. subsidiary. He succeeds J. Lester Perry, who will remain with U. S. Steel in an advisory capacity. Roach adds his new responsibilities at Columbia Steel to his present duties as president of Consolidated Western Steel Corp., also a U. S. Steel subsidiary.

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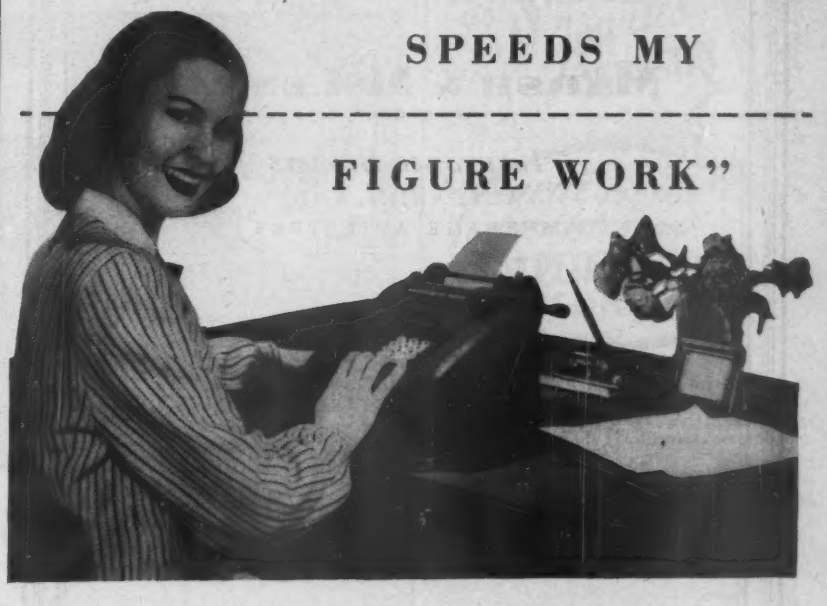

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FINANCE BRIEFS

NEW CORPORATE CAPITAL FLOTATIONS added up to some $482-million in September, the Commercial & Financial Chronical reports. About 30% was sold privately to insurance companies and others.

CHICAGO GREAT WESTERN'S new president, Grant Stauffer, is former chairman of Kansas City Southern's executive committee. But no closer ties between the roads, says Stauffer.

MUTUAL SAVINGS BANK DEPOSITS rose $45-million in September to almost $18.3-billion—a record. Even so, the January-September expansion was only 2.89% as against 4.73% in the same 1947 period.

TUCKER CORP'S delay in producing cars has upset dealers and distributors (BW—Oct.16'48,p96). A group may ask for an RFC loan to tide Tucker over.

PLAYBOY has to work out new financing and modify its baby auto production program. Subscribers ordered more than 10-million shares of stock on a when-as-if basis (BW—Aug.28'48,p65). But when the company asked for the cash, 75% reneged.

FREUHAUF TRAILER will handle instalment purchase contracts through a new financing subsidiary. Its capital is coming from a life company, which took $30-million of bonds.

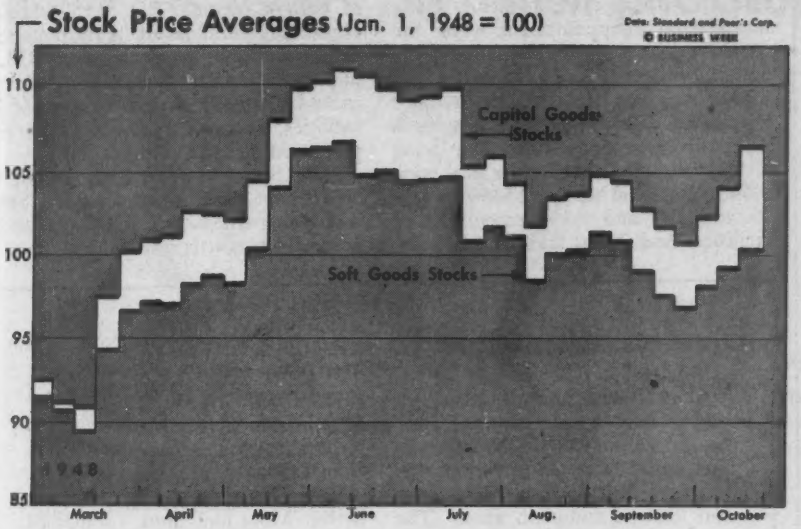
BLUE CROSS hospital-insurance plans in the U. S. and Canada now number 89. Their income during 1948's first half totaled $150.9-million; payments to hospitals, $132.2-million; operating expenses, 10% of gross income.

ARMOUR hasn't shelved its financing plans after all (BW—Oct.16'48,p97). It will sell $40-million in debentures directly to an insurance group.

LIFE COMPANIES—despite restrictions in many states—now own almost $1.5-billion of preferred and common stocks (86% more than prewar). That's 3% of all life-company assets. Ratio: three preferred shares to one common.

The Pictures—Acme—21; British Information Service—113; Dorsey & Peters—19 (right); Elizabeth Timberman—25, 26; Harris & Ewing—119; Int. News—116.

THE MARKETS



Capital Goods Spark Market

If the industrials pass last June's peak, capital-goods stocks will take the credit. Big Steel reports handsome earnings but capital expansion holds down its dividend.

It's the capital-goods industries that are putting the steam into the stock market's "pre-election" rally. That shows up plainly if you compare the stock prices of capital-goods producers with the consumer-goods companies (chart).

• **Spread Widens**—At the moment, the consumer-goods index is just about even with last January. But capital goods are better than 6% higher. And the spread has been widening rapidly since the market turned upward last month.

In this respect at least, the market is taking back some of the gloomy prophecies of a general slump in business—prophecies that it seemed to be making off and on in the past two years. If traders see a recession ahead, they don't expect it to make much difference in business expansion or purchases of capital goods. And a recession that doesn't affect capital expansion could scarcely be serious enough to qualify for the name.

• **Near June Peak**—This week, the market's rally showed signs of slowing down. But the bulls feel that they have no apologies to make yet. They point out that last week the market bounced easily through the old resistance level around 186 on the Dow-Jones industrial average. And on Monday, it took the Russian veto of the proposed Berlin compromise without a whimper.

At the moment, the industrials stand within easy reach of last June's peak (193.16). Traders think they are getting ready to make a decisive test. If they go through, Wall Street will have a brand new bull signal. If they don't, that will be something else again. But the bulls will cross that bridge when they come to it.

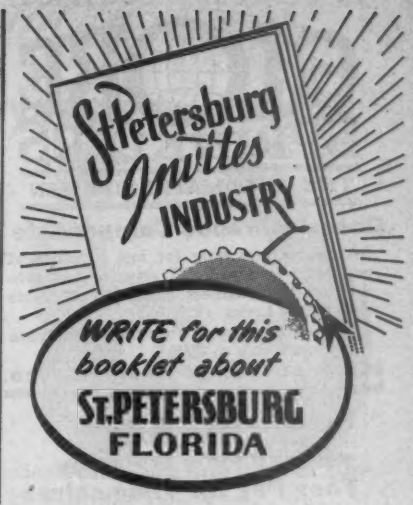
• **U. S. Steel**—With heavy industry setting the pace for the market, traders kept an anxious eye on the meeting of U. S. Steel's directors this week. Marketwise, the news that came out was partly good and partly bad.

Big Steel's earnings were handsome enough by any standard. In the third quarter, it rang up a net income of $34,599,132 against $32,585,677 in the second quarter this year and against $28,-

Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
Stocks				
Industrial	163.8	160.5	150.7	152.6
Railroad.	50.0	49.1	47.1	42.3
Utility . .	72.2	71.5	69.4	73.9
Bonds				
Industrial	95.2	95.3	96.6	101.0
Railroad.	85.5	86.0	86.6	86.1
Utility . .	93.9	94.7	94.4	99.9

Data: Standard & Poor's Corp.



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LOOKING FOR INDUSTRIAL PROPERTY?

. . . See page 113 of the October 2 issue of BUSINESS WEEK. You may find what you are looking for in the

NATIONAL REAL ESTATE SECTION

Next scheduled insertion of this section planned for the Nov. 6 issue, earlier publication will be made if required.

735,082 in the third quarter last year.

• **Regular Dividend**—But a large section of the Street had talked itself into thinking that Big Steel was about to come through with an extra dividend. There was general disappointment when the directors declared only the regular $1.25 on the common.

One reason for the corporation's tight-fisted dividend policy obviously is its expansion program. Chairman Irving S. Olds reported that in the past nine months Big Steel has spent $199-million for additions and improvements to its facilities. And it has another $296-million to go before it completes its present program.

• **More Expansion?**—Much of the money for this expansion is coming out of current income. Big Steel retained almost $17.5-million of its third-quarter net. In addition, it made an extra $13.5-million depreciation charge to take account of higher replacement costs of its facilities. This was on top of regular depreciation of $22.6-million.

Wall Street wonders if the retention of so much cash means that Big Steel is planning still more expansion after its present program is finished.

Dividends Continue To Climb Sharply

Stockholders haven't been getting as large a share of their companies' earnings since V-J Day as they could count on getting in prewar days. But dollarwise they have had little to complain about. The postwar corporate earnings boom has been showing up in dividends lately.

Dividend payments on Big Board common stocks, in fact, hit a new high in the first nine months of 1948: $2.5-billion. That's 14.8%, or $322-million, more than was chalked up in the same 1947 months. And it is 41%, or $731-million, greater than the figures from January-September, 1946.

The last quarter may be even better. More and more companies have been declaring much bigger year-end dividends than they did last year.

Here is the New York Stock Exchange's tabulation of the dividends paid on the common stocks it has listed during the first nine months of 1948 and 1947:

Industry	Number of Issues	Jan.-Sept. Dividend Payers 1947	1948	Dividend Results 1948 vs. 1947 Higher	Same	Reduced	Approx. Amount of Dividends (000 omitted) 1947	1948	% Change 1948 vs. 1947
Aircraft mfrs.	14	6	8	7	1	2	$5,470	$19,741	*+260.9%
Amusement	21	18	17	6	5	7	44,623	39,893	− 10.6
Automotive	66	53	56	40	10	7	163,768	204,762	+ 25.0
Building	26	23	25	19	5	1	22,597	31,171	+ 37.9
Bus. & office equip.	10	9	9	7	2	0	18,056	21,663	+ 20.0
Chemical	76	73	71	21	35	17	257,766	269,339	+ 4.5
Electrical equip.	19	19	19	9	8	2	57,799	59,658	+ 3.2
Farm machinery	7	4	5	3	2	0	19,108	27,237	+ 42.5
Financial	30	26	28	14	13	1	50,170	54,061	+ 7.8
Food	66	62	63	30	19	14	135,234	157,224	+ 16.3
Garment mfrs.	6	6	6	2	3	1	2,552	2,651	+ 3.9
Land, realty & hotels.	6	4	5	2	3	0	2,575	3,181	+ 23.5
Leather & shoe mfrs.	11	10	10	6	2	3	12,800	15,489	+ 21.0
Machinery & metals.	98	84	91	48	40	4	78,805	97,698	+ 24.0
Mining	36	27	30	18	9	3	87,746	106,202	+ 21.0
Paper & publishing.	32	28	30	17	10	4	35,638	45,887	+ 28.8
Petroleum	42	40	42	38	3	1	254,634	310,904	+ 22.1
Railroad	82	48	54	16	32	6	135,404	154,814	+ 14.3
Retail merchandise.	71	66	65	17	37	13	156,157	160,651	+ 2.9
Rubber	10	10	8	1	7	2	26,319	26,445	+ 0.5
Shipbuilding	5	5	4	0	4	1	2,941	2,312	− 21.4
Ship operating	6	5	4	3	1	1	6,718	8,031	+ 19.5
Steel, iron & coke	39	32	33	18	13	3	89,539	105,849	+ 18.2
Textile	37	35	36	24	9	3	51,282	61,769	+ 20.4
Tobacco	17	16	16	7	8	1	43,459	49,890	+ 14.8
Transport. services.	4	3	2	1	0	2	1,058	808	− 23.6
Utilities	73	61	63	19	37	9	301,165	332,140	+ 10.3
Companies abroad	24	15	12	8	1	6	38,961	47,920	+ 23.0
Foreign companies	16	15	14	5	6	4	51,596	54,497	+ 5.6
Other companies	35	24	25	17	4	6	26,285	30,166	+ 14.8
Total	985	827	851	423	329	**124	$2,180,225	$2,502,053	+ 14.8%

*About one-half gain accounted for by $1 per share Curtiss-Wright dividend.
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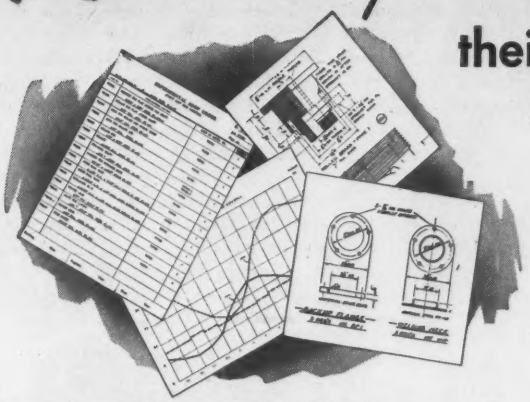

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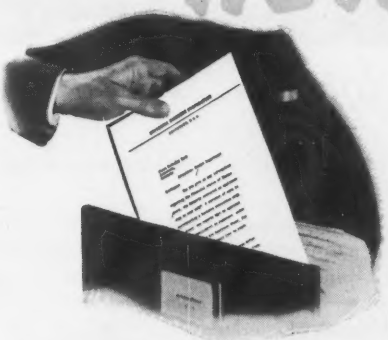

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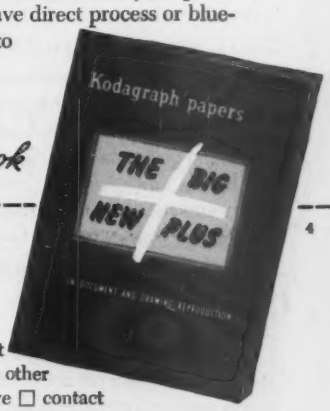

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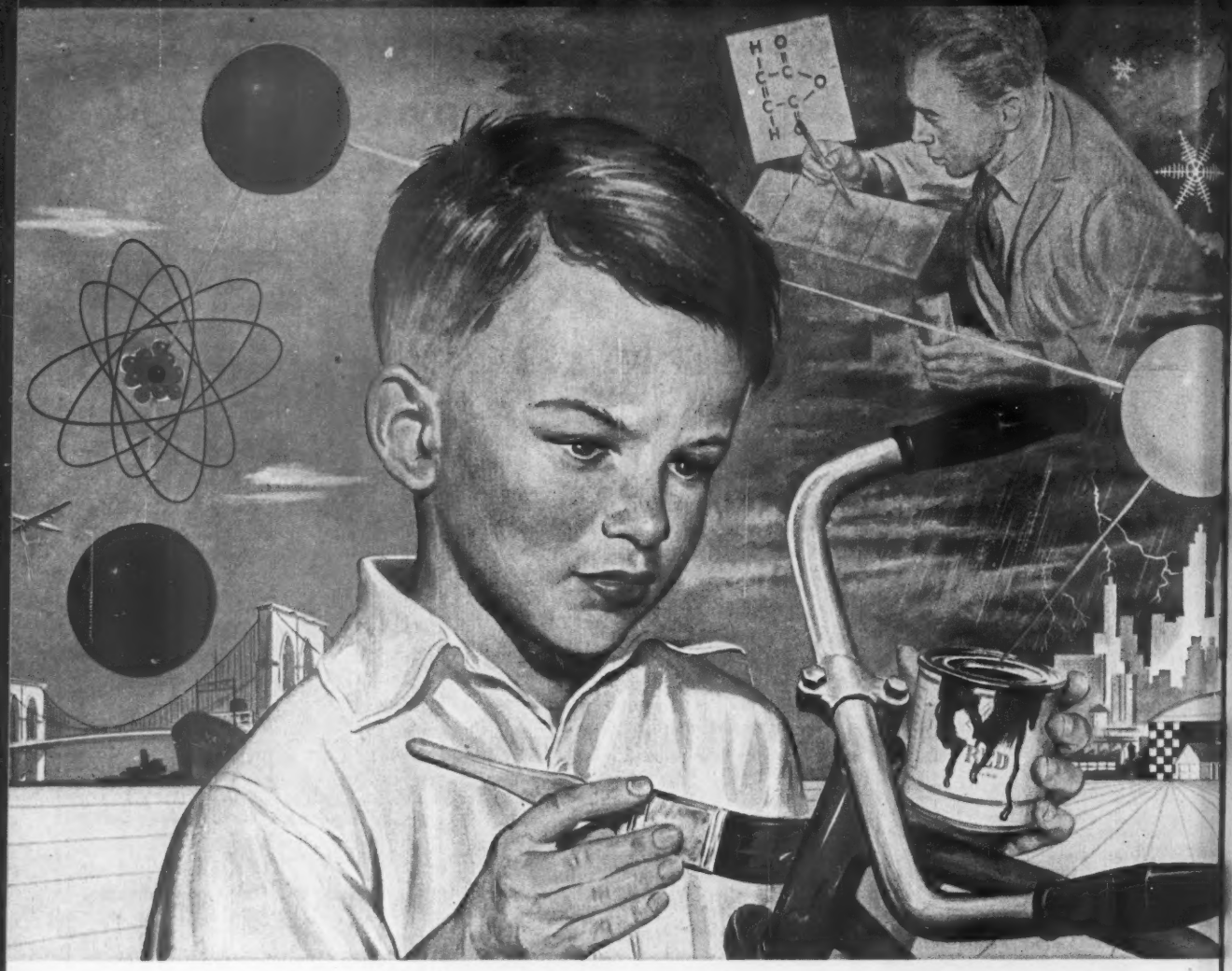

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INTERNATIONAL OUTLOOK

The U. S. won't make a real policy on Berlin until after the election.

Chances are that the issue will then go to UN's General Assembly.

No one expects Moscow to reverse itself there. But U. S. policy makers are playing with this idea: an offer to evacuate all Germany.

Russia and the West would agree that they couldn't make a German peace treaty. Therefore, both sides would clear out and let the Germans run their own show.

•

If we make this offer we will expect the Russians to:

(1) Agree to really free elections.

(2) Give up their claim to $10-billion in reparations.

(3) Turn back the ownership of German plants in their zone.

(4) Forget their claim to a voice in the Ruhr.

That would be a lot to ask the Russians to swallow. Washington has no illusions on that score.

But there's evidence that the Kremlin is cooking up an "evacuate Germany" propaganda move of its own. So it might be smart, in any case, for the West to beat Moscow to the punch.

•

What to do next if we get nowhere with the evacuation offer?

Here's top-level thinking in Washington today:

The Berlin airlift can't be a permanent U. S. policy. We can go on for quite a while yet. But not indefinitely.

So we may have to decide whether to: (1) get out of Berlin; or (2) force a showdown.

That decision will be Dewey's when he's in the White House. And it will be a tough one.

If a showdown were handled skillfully, war might be avoided. But the odds are put at three to one that a showdown on Berlin would lead to shooting.

•

Events in Berlin have overshadowed big doings at the Rhine city of Bonn. Here a west-German government is being put together.

Working on a German constitution are 65 delegates. They represent 46-million Germans in the 11 states of western Germany. And they reflect approximately present political strength. The biggest parties are the Socialist and Christian Democrat. Each has 27 delegates.

•

The basic issue at Bonn is states rights vs. a strong central government (shades of Philadelphia in 1787).

The Socialists favor centralized authority. The Christian Democrats want a central government of limited powers; all rights not expressly given it would go to the states.

The die will be cast when a decision is made on who gets the taxing authority.

•

The Bonn delegates will probably vote for a two-house legislature—a lower house ("Bundstag") and a senate ("Bundesrat"). Bundesrat members would be appointed by the state governments. They would not be elected by popular vote, as our Senate is.

The executive branch of the government would operate European style. The president would be elected by joint vote of the two legislative houses. He

would ask the majority party in the Bundstag to form a cabinet to run the country.

•

How the work at Bonn will be ratified by the people is still undecided.

The occupying powers favor a referendum. But the Germans want the parliaments of the 11 states to ratify initially. That would hold off a people's referendum until a constitution for all Germany can be framed.

The Bonn delegates don't want to be charged with splitting Germany. They aim at a provisional—not a final—constitution. They don't want things to be pinned down so hard now that revisions later would be troublesome.

•

The Economic Cooperation Administration is prodding France to slash its four-year investment program.

The French want to spend about $8.7-billion by 1952 to modernize industry. (That's roughly the same amount called for in the Monnet plan.)

ECA officials in Paris say France can't afford such an ambitious capital outlay. They think the government should first try to retire debt and balance the budget.

But the chief American objection is to French plans for financing investment out of the counterpart fund (local currency set aside to match the amount of ECA dollars). This would merely boost the inflationary pressure—unless an equal amount is drained off in new taxes.

French planning commissioner Monnet is pleading with the government to slap more taxes on merchants and farmers. If Monnet sells his idea, it will be a miracle. No government since the war has had the strength to pry much out of the French middle class.

•

ECA isn't making much headway in getting strategic materials from Marshall Plan countries. The yield to date is only 1,000 tons of rubber and the promise of some sisal.

So Paul Hoffman is working on a new approach.

One idea is to make it easier for U. S. interests to go into foreign mining ventures.

•

ECA is now offering local currency advances for approved U. S. projects abroad. The money will come out of counterpart funds. (ECA has a lien on 5% of this money in each Marshall Plan nation.)

These advances would be used by U. S. investors for payrolls, etc. They would be repaid out of future sales to U. S. stockpiles.

Other inducements that are available: (1) ECA's 14-year exchange guarantee; (2) right of access to mining territory that's not always open to private firms working on their own.

•

The British are following the ECA line of building East-West trade (BW-Oct.23'48,p119).

Within two or three weeks, London expects to sign two important trade deals with countries behind the Iron Curtain. Under these:

(1) Imports from Poland would reach $44-million for 1948 (about $30-million in agriculture produce) and $60-million for 1949.

(2) Imports from Yugoslavia would be $60-million in 1949, mostly timber and foodstuffs. (As part of the deal Tito has already fixed compensation for nationalized British properties at about $16-million. Reports from Europe say that London has promised Tito 100,000 tons of oil next year.)

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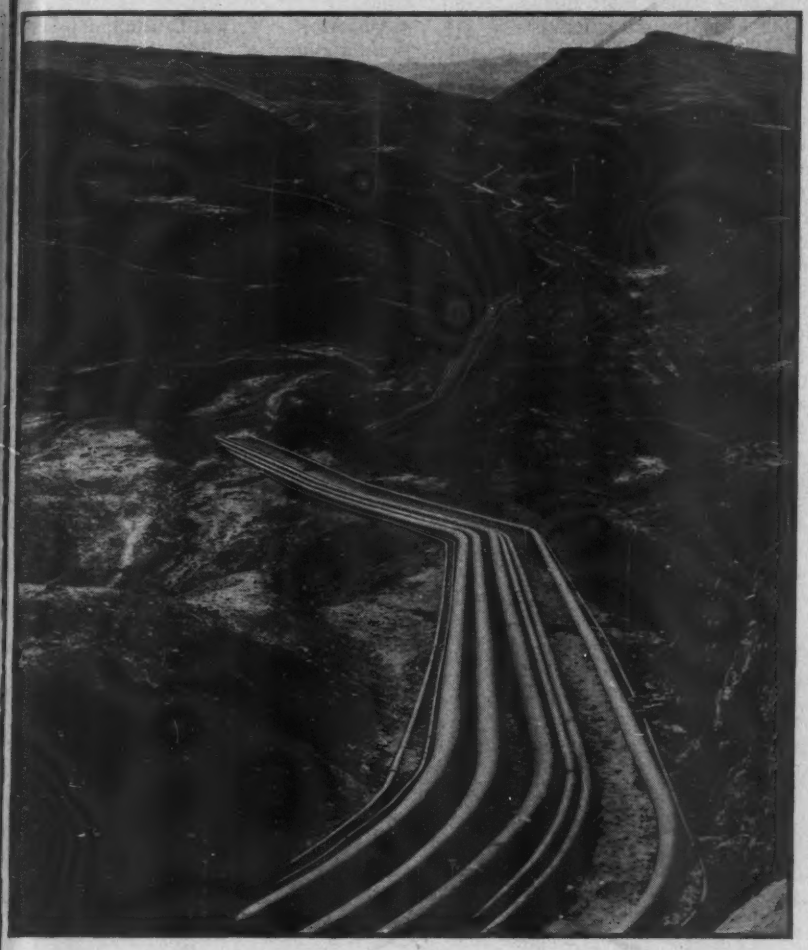
BUSINESS ABROAD



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U. S. Firm Will Build Up Iran

Iranian government contracts for $650-million development program to be handled by Overseas Consultants, Inc. Earlier development scheme fell through.

With the tacit blessing of the U. S. State Dept., a group of U. S. engineers is out to administer $650-million worth of western improvements to a country right on Russia's back doorstep.

That is the meaning of the agreement signed in Washington last week between Overseas Consultants, Inc., and the Iranian government.

• **Off to Teheran**—Four or five members of Overseas Consultants—the same outfit that recently surveyed Japanese industry for the U. S. Army (BW—Mar.13 '48,p112)—will be off to Teheran next month to see if the program can work. John R. Lotz, Stone & Webster Engineering Corp. will head the group.

If Lotz returns a favorable verdict, it may touch off similar programs in other Middle East countries. That would greatly strengthen the U. S. strategic position in the Middle East.

This is the second time since the war that the Iranian government has come to the U. S. for help in developing its country. More than a year ago Morrison-Knudsen International Corp., San Francisco, drew up a mammoth report on the technical aspects of developing Iran. On the basis of this report, the Iranian government applied for a $250-million loan from the International Bank last June.

The bank turned thumbs down. It didn't think the Iranian government was a good risk.

• **Follow-Through**—Overseas Consultants will draw heavily on the Morrison-Knudsen report for the new Iranian scheme. But there will be one big difference. After Overseas Consultants has established a sound financing scheme—it will stick with the plan to its completion. The U. S. engineers will pick the projects to be covered by the plan, work with the Iranian government in drawing up contracts for materials and services.

The International Bank may look more favorably on this scheme. But the bank will only pony up a small percentage of the money, in any case. The lion's share will come from two sources:

Oil royalties will provide 33% to 50%. Right now Iran's oil output is running at about 22-million metric tons a year. Iran gets the sterling equivalent of $1.50 a ton from Anglo-Iranian Oil Co., Ltd. Thus, royalties bring in about $33-million a year. Under its agreement with Anglo-Iranian, Teheran can convert its sterling royalties to dollars for all foreign buying requirements not available in the sterling area.

Royalties may double before the end of the seven-year period of the plan. Oil output is expected to jump to 40-million metric tons a year by 1955. And the Iranian government is now renegotiating an increase in royalties.

Internal reserves will account for another 33% to 40% of the money for the development program. Iran has about $225-million in gold and foreign exchange. That is nearly 100% reserve against the money in circulation in the country today. The government figures it can safely use 60% of this reserve, leaving 40% as currency coverage.

• **Imports**—About 45% of the $650-million to be raised for the program will be spent outside Iran. The rest will go for local materials, labor, and other costs. The U. S. will get some orders. So will Britain, Switzerland, Czechoslovakia, Sweden, and Belgium.

There is no evidence that Britain resents U. S. poaching on what has been up to now more or less a British economic preserve. In fact, there is a good chance that a British engineering firm—Sir Alexander Gibb of London—may well be taken in by Overseas Consultants. Gibb now operates in Iran.

• **Politics**—One of the major obstacles to the development program is the Iranian parliament. It is against anything that smacks of change.

Reason: Its 130-odd members are all landlords and other well-established citizens. Change might mean increased taxation.

There are, of course, influential Iranians who realize that their country must sooner or later bow to progress. It's a good bet that the parliament will

finally vote for the development scheme. Matters are going ahead on that assumption anyway.

• **Transportation**—In picking specific projects for the development program, Overseas Consultants will start with some 200 projects written up in the Morrison-Knudsen report.

M-K suggested that a good share of any development program be devoted to Iran's inadequate transportation system. The country has only one main rail line—the Trans-Iranian R.R. which carried lend-lease goods to Russia during the war. It has only 865-mi. of trackage. M-K recommended that some $36-million be spent on improvements for this line and that $119-million be spent to expand the nation's rail system.

M-K also recommended spending $53-million on highway development in and around Iran's major cities. Almost $9-million was earmarked for airport development, including major airports at Teheran and Abadan (on the Persian Gulf). M-K also mapped plans for the development of the ports of Khorramsharr and Bandar Shahpur.

• **Power**—Another big chunk of money—about $135-million—was earmarked by M-K for steam and diesel power stations at 44 Iranian cities. These would boost Iran's power output by 571-million kwh. annually. Thermal power got the nod over hydro-electric power because it could be installed more quickly, could be put to more and varied uses.

The M-K report also urged the Iranians to put their natural gas resources to work powering industry.

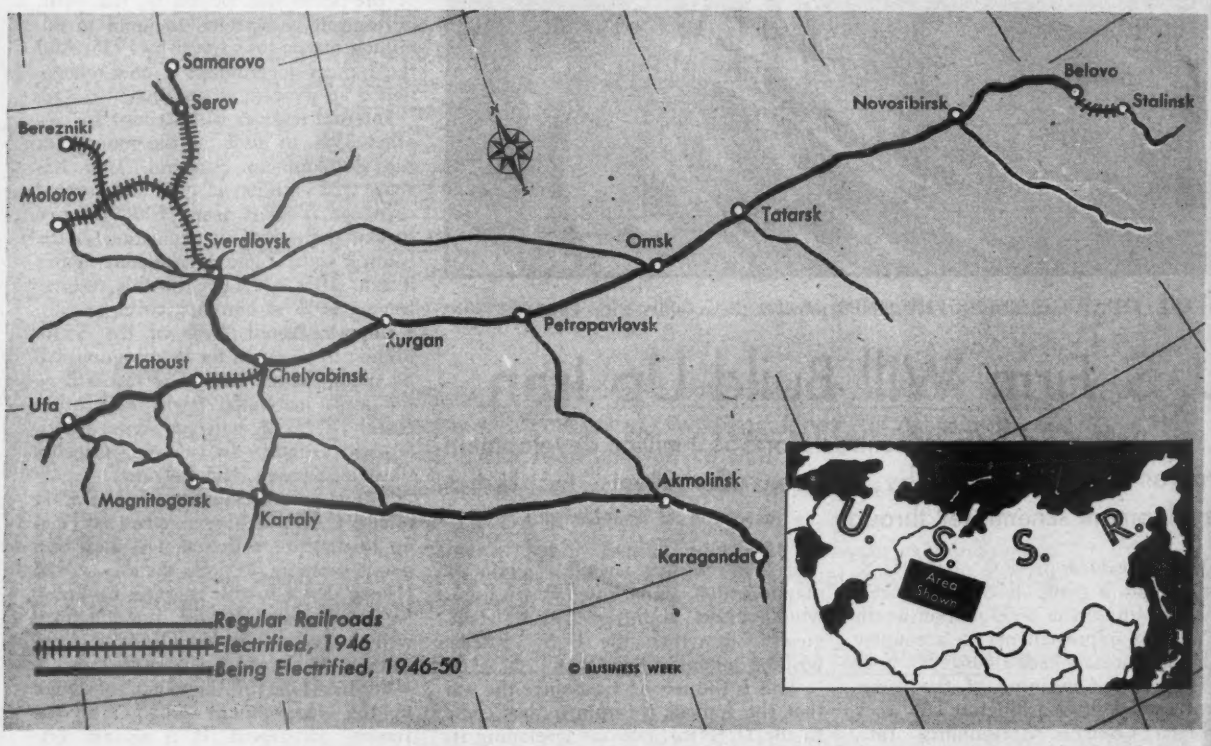
Agriculture will come in for a big slice of any Iranian development program. M-K recommended that Iran spend $70-million on irrigation projects. The projects listed were for the most part small dams, river diversion, drainage, and canal construction. The biggest one—costing $18-million—calls for the construction of a dam on the Kor River, 25-mi. from Shiraz in southwest Iran. A $12-million dam was proposed for the Zarineh River in Azerbajian Province, adjoining Russia in northern Iran.

M-K further recommended that Iran spend some $52-million building up processing and storage facilities for farm produce. The report called for construction of $16.8-million worth of grain handling facilities at Teheran. Rice handling facilities were put down for almost $20-million. Also $8-million was earmarked for eight meat packing plants, $1.8-million for 11 stockyards, and $5.3-million for refrigeration plants at Teheran, Meshed, Tabriz, and other cities.

• **And More**—Overseas Consultants will swallow some of these recommendations whole, water down others, and come up with some suggestions of their own. Some good bets outside M-K recommendations: (1) A lot of cement capacity. Iran has only one 230-ton-a-day plant now. Anglo-Iranian alone imports 50,000 tons of cement a year. (2) Fertilizer plants—at least $3-million. (3) A plant to treat railroad ties. Iran has to import 300,000 ties a year now.

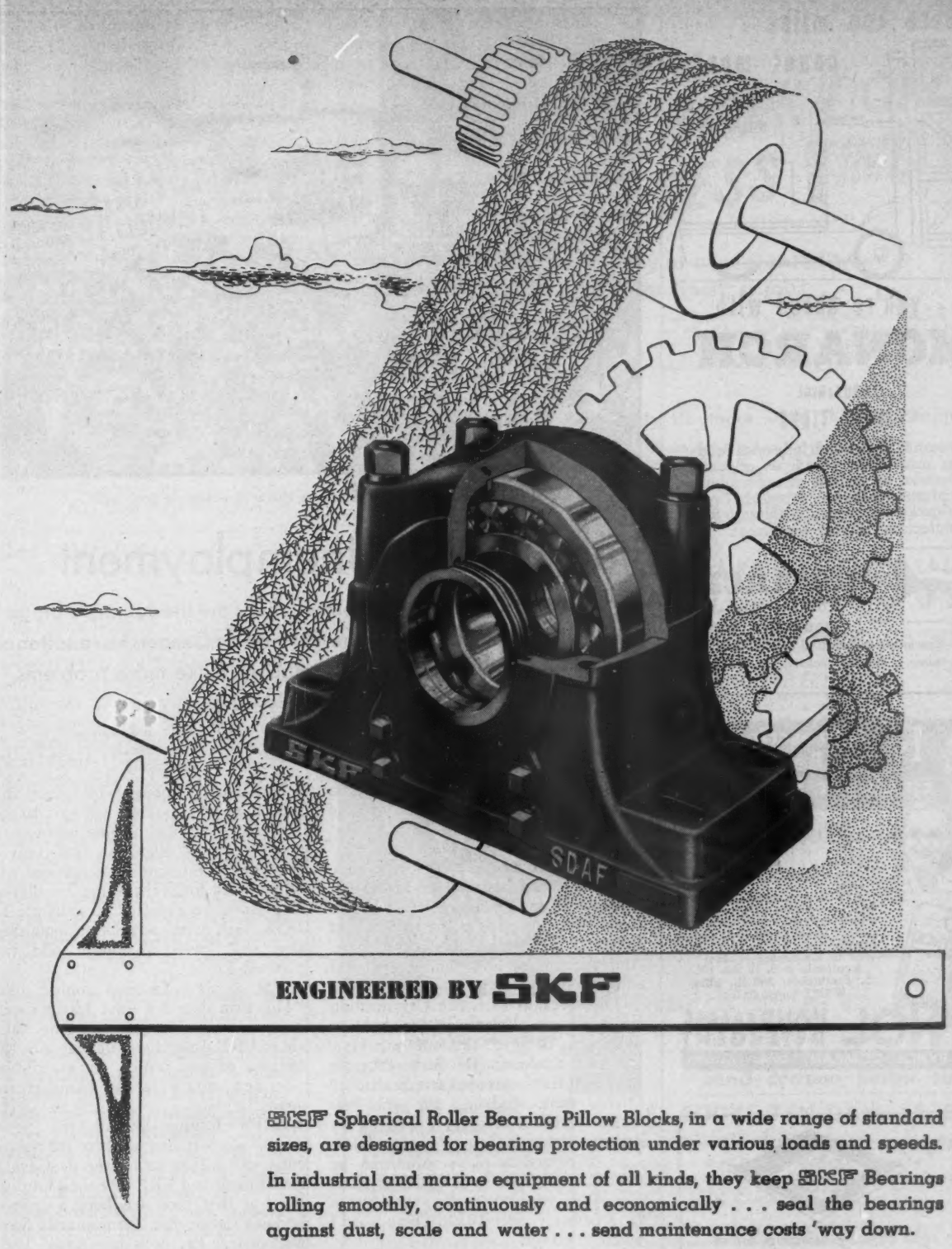
Overseas Consultants was dissolved last February after it completed its Japan mission. It was reincorporated in August for the Iranian job. Clifford S. Strike of F. H. McGraw & Co., is still O.C.'s president. John R. Lotz is chairman of the board.

Other participating firms: Coverdale and Colpitts; Standard Research Consultants, Inc.; Jackson & Moreland; J. G. White Engineering Corp., Sanderson & Porter; Madigan-Hyland; Ford, Bacon, & Davis, Inc.; Ebasco Services, Inc.; and The American Appraisal Co.



U.S.S.R. Working on World's Longest Electrified Rail Route

It's a long, rough road from Sverdlovsk in the Urals to Stalinsk in Siberia, but the Russians hope to have it electrified by the time their current five-year plan is completed. The Trans-Siberian R.R. will then operate electrically over a distance equal to that from New York to the middle of Nebraska (roughly 1,400 miles). Also due to be converted from steam are the lines between (1) Kartaly in the Urals to Karaganda in Kazakistan, and (2) the big Ural industrial centers of Chelyabinsk and Ufa. A rail network connecting industrial centers in the Urals was electrified before 1946.



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COMMUNIST RALLY in Rome: Its threat depends on how well . . .

Italy Battles Unemployment

Two and a half million jobless Italians are the country's biggest economic and political headache. ERP and de Gasperi have softened Communist hold, but the West's solutions make more problems.

ROME—In Italy today all parties are courting the workingman's favor—posing as labor's champion. They all know that recovery means licking the unemployment problem, getting Italy's more than 2.5-million jobless back on the production line.

• **Too Many People**—There are 400,000 more Italians in Italy every year. The population has doubled in the last century. There are more than twice as many unemployed as in the U. S.—in an industrial society only one-sixth as large. And the jobless lines will lengthen if something isn't done to shrink them.

This week in Paris the Organization for European Economic Cooperation was trying to figure this one out: How can the European Recovery Program help cure Italy's number one headache? OEEC was studying the four-year master plan for recovery drawn up by Premier Alcide de Gasperi's government. Like all four-year plans submitted by OEEC nations, it is designed to show how Italy could get along without a U. S. subsidy after 1952. There wasn't much to go on.

• **Proposed Solutions**—The plan proposes to give work to more than a million additional workers by 1952. It calls for an increase of 40% in industrial production over prewar levels, a 15% boost in farm output. On paper the Italian economy is to absorb the following people by 1952:

425,000 in industry
400,000 in trade and transport
300,000 in public works
25,000 in agriculture

• **Not Good Enough**—To meet this goal, the plan says, Italy will have to put 15% of its national income into capital goods—a record high. At that, only a third of the estimated unemployed will be provided for. True, some 700,000 or so persons are expected to emigrate by 1952. But, with population booming, that still leaves a million odd not planned for.

The report ends on a sombre note: "This plan does not solve Italy's excess manpower problem despite the valid aid of ERP. Italy therefore demands the opening of new outlets for emigration . . . new outlets for its manufactured goods."

• **ERP's Innings**—Despite the pessimism, most Italian workers are apparently still willing to let the de Gasperi government and ERP have their innings. It's true that there has been a definite letdown since the Communists were walloped at the polls last April. Then the issue was a Marshall Plan "paradise" vs. a Moscow "paradise," and Italians chose the western one. When no paradise appeared, the West's stock fell.

But, even so there is plenty of evidence that the Communists are still on the run.

Up to July, the Italian trade-union

movement was still tightly in the grasp of the Communists, who rule supreme in the Confederation of Italian Workers (C.G.I.L.). At that time the Communist offensive against ERP was at its height. Strikes averaged more than five a day, were carefully planned to spread the damage over the widest area.

• **Falling Tide**—Since then the tide has turned. The general strike of July 14-16, called to protest the attempted assassination of Communist leader, Palmo Togliatti, was a dismal failure. Then Christian Democratic trade-union bosses bolted the powerful C.G.I.L.; taking with them an unknown number of followers and a big chunk of the treasury. Finally, in August, a Socialist union leader within C.G.I.L. publicly denounced the control of union activities by Communist politicians. His action is reported to have forced C.G.I.L. to take a strong stand against political strikes.

As a result of this boring from within, Italian Communists today are kicking up far less fuss than their comrades in France. Some U. S. observers are even cautiously predicting that the Reds won't be willing to go all out against ERP.

The Communists haven't lost their grip in Italian labor by any means. But there is a new atmosphere of caution. How soon, if ever, the Communists will be willing to strut their power again in Italy depends on how well the de Gasperi government and its western supporters meet Italy's depressing problems.

• **Weak Start**—The West in Italy has got off to a rather feeble start. Reports from Rome to Washington indicate that Italy is one of the two or three Marshall Plan countries whose industrial output has not gained noticeably during the first few months of U. S. aid.

There's a threat, too, in the de Gasperi government's failure to take action on the politically loaded question of land reform. There's a constant reminder that Italy is still vulnerable to Communism in this fact: Almost half of Italy's arable land is owned by about 1% of the population.

U. S. demands for an efficient Italian economy have worked against de Gasperi's efforts to solve the unemployment problem. Italy today is overloaded with factories, set up in Mussolini's day to make Italy industrially self-sufficient. Hundreds of these are now a serious drag on the Italian treasury. The U. S. has been prodding the Italian government into closing these plants down.

• **Vicious Circle**—But this has added to Italy's bulging unemployment pool. And, of course, as unemployment rises, consumer income drops. A low consumer income means a shrinking domestic market. So Italian economists are asking: How can a manufacturer step up his output—much less save enough to invest in new plant and equipment?

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How to make yourself do it
How to decide trifles quickly
Getting a vigorous start
The best hours for getting more done
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ECA'S LEDGER

Reports From Washington

How does ECA actually spend its money? Over the first six months, ECA financed a quarter of its business through letters of commitment against which U. S. banks advanced money to the country involved. A little less went for direct payments to the U. S. Army and Navy departments, and the Bureau of Federal Supply. The rest went to reimburse Marshall Plan countries for purchases made before procurement authorizations were issued.

U. S. banks handled more than $540-million worth of letters of commitments for ECA. Bankers Trust Co. led with $91.3-million; Chase National Bank was next with $87-million. The rest was divided among 16 other banks, including the Bank of America, Bank of California, Continental Illinois National Bank, and the Philadelphia National Bank.

ECA financed almost $321-million worth of French purchases on letters of commitment. Britain did all its buying under the reimbursement procedures.

Loans. This week ECA signed its $310-million loan agreement with Britain. The money will be used to buy industrial machinery and materials. The interest rate on the loan was set at 2¾% —payable semi-annually starting in 1952. Britain is obliged to start repayments by 1956. This is the general pattern that will be followed in subsequent loans.

Offshore Buying in Latin America. ECA expected to do between $1-billion and $1.5-billion worth of business in Latin America in its first year. At the halfway mark only $125-million has been spent there. Biggest suppliers were Chile ($31.3-million), Venezuela ($25.9-million), Cuba ($20.8-million), Brazil ($19-million), and Mexico ($15.1-million). Argentina, which was supposed to lead the list, received only $2.2-million worth of orders.

Productivity Council. The Anglo-American council for the study of productivity in Britain held its first meeting this week (BW—Sep.18'48,p130). Its first action may be to send several British workingmen and production managers to the U. S. to study production methods.

Several consultants to the American part of the council have been named. Included are: for technical literature, Willard Chevalier, senior vice-president, McGraw-Hill Publishing Co.; for industrial relations, Otto S. Beyer, Jr., consulting engineer, and Joseph N. Scanlon, professor of industrial relations at Massachusetts Institute of Technology; for productivity measurement, W. Duane

Evans, economist, Bureau of Labor Statistics; interchange of personnel, R. Webb Sparks, National Industrial Council.

Procurement Authorizations. For the week ended Oct. 20, ECA authorized $138,500,000 worth of purchases. Food and feed items topped the list with $76.4-million. Machinery accounted for $10-million. Included are rolling mills for plywood production; flying sheet, shear, and drive mills for paint and varnish plants; cranes and dredging crane buckets; sewing machine heads; and textile machinery (the latter from Japan for the Netherlands East Indies).

Reports From Abroad

Reports from Australia indicate Britain's dominions may be in for a bigger share of ECA business. It is believed that the U. S. and Britain have agreed that ECA dollars may be used to buy reconstruction goods in dominions that are in the sterling area. So far only Canada—not in the sterling area—has gotten any appreciable volume of ECA business.

Australian officials won't confirm or deny these reports, but if they are true, Australia's dollar worries are over. The dominion's capital spending program, shelved for lack of U. S. equipment, would be put back into motion.

Road Builder

B. C. Budd, general manager of Packard's export division, is now in the business of selling roads, as well as cars, to foreign countries. He has just been made chairman of the American branch of the International Road Federation. Budd's job: to sell Latin America on the idea of better roads. I.R.F. is backed by U.S. and British oil, auto, and tire interests; builders of road making machinery are expected to join up soon.

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Agency—Ketchum, MacLeod & Grove, Inc.
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Agency—N. W. Ayer & Son, Inc.
BALDWIN LOCOMOTIVE WORKS, INC. 29
Agency—Ketchum, MacLeod & Grove, Inc.
BEECH-NUT PACKING CO. 57
Agency—Newell-Emmett Co.
BELDEN MFG. CO. 4
Agency—The Fensholt Co.
BURROUGHS ADDING MACHINE CO. 84
Agency—Campbell-Ewald Co.
CAPPER'S FARMER 70
Agency—The Buchen Company
CLARAGE FAN CO. 118
Agency—W. J. Williams Adv. Agency
COLD METAL PRODUCTS CO. 58
Agency—H. M. Klingensmith Co.
COLORADO FUEL & IRON (WICKWIRE SPENCER STEEL DIV.) 36
Agency—Fuller & Smith & Ross Inc.
COLSON CORP. 82
Agency—Carr Liggett Adv., Inc.
COLUMBIA STEEL & SHAFTING CO. 53
Agency—Walker & Downing
COMMONWEALTH OF PENN. 45
Agency—Ketchum, MacLeod & Grove, Inc.
CONTINENTAL MOTORS CORP. 56
Agency—Wallace-Lindeman, Inc.
THE COOPER-BESSEMER CORP. 2
Agency—The Griswold-Eshleman Co.
COUNTRY GENTLEMAN 40-41
Agency—Lamb, Smith & Keen, Inc.
CULLIGAN ZEOLITE CO. 108
Agency—Frederick, Franz & MacCowan Adv.
DEARBORN CHEMICAL CO. 94
Agency—The Fensholt Co.
A. B. DICK CO. 104
Agency—Fuller & Smith & Ross Inc.
DRAVO CORP. 28
Agency—Ketchum, MacLeod & Grove, Inc.
DRESSER INDUSTRIES, INC. 55
Agency—Fuller & Smith & Ross Inc.
E. I. du PONT de NEMOURS & CO. 7
Agency—Batten, Barton, Durstine & Osborn, Inc.
DUREZ PLASTICS & CHEMICALS, INC. 81
Agency—Comstock, Duffes & Co.
EASTMAN KODAK CO. 109
Agency—J. Walter Thompson Co.
THOMAS A. EDISON, INC., EDIPHONE DIV. 67
Agency—James Thomas Chirurg Co.
ELECTRIC INDUSTRIAL TRUCK ASS'N 49
Agency—Ketchum, MacLeod & Grove, Inc.
ELECTRIC STORAGE BATTERY CO. 14
Agency—Geare-Marston, Inc.
ELLIOTT ADDRESSING MACHINE CO. 97
Agency—Alley & Richards Co.
ELWELL-PARKER ELECTRIC CO. 42
Agency—The Bayless-Kerr Co.
FELT & TARRANT MANUFACTURING CO. ... 27
Agency—N. W. Ayer & Son, Inc.
FOX RIVER PAPER CORP. 36
Agency—Scott Inc. Adv. Agency
FRICK CO. 98
Agency—Waynesboro Adv. Agency
GENERAL BOX CO. 64
Agency—The Buchen Co.
GENERAL ELECTRIC CO. (PLASTICS) 2nd cover
Agency—Benton & Bowles, Inc.
GENERAL ELECTRIC CO. 52
Agency—G. M. Basford Co.
GENERAL MILLS, INC. 68
Agency—Batten, Barton, Durstine & Osborn, Inc.
GLOBE AUTOMATIC SPRINKLER CO., INC. .. 108
Agency—Marschalk & Pratt Co.
THE B. F. GOODRICH CHEMICAL CO. 4th cover
Agency—The Griswold-Eshleman Co.
GOODYEAR TIRE & RUBBER CO., INC. ... 60-61
Agency—Kudner Agency, Inc.
A. C. HORN CO., INC. 47
Agency—J. D. Tarcher & Co., Inc.
HOUSEHOLD MAGAZINE 58
Agency—The Buchen Co.
JONES & LAMSON MACHINE CO. 32
Agency—Henry A. Loudon Adv.
KEASBEY & MATTISON CO. 95
Agency—Geare-Marston, Inc.
KOPPERS CO., INC. 89
Agency—VanSant, Dugdale & Co.
THE LAMB ELECTRIC CO. 46
Agency—The Bayless-Kerr Co.
LURIA ENGINEERING CORP. 78
Agency—Rickard & Co., Inc.
MANNING, MAXWELL & MOORE, INC. 96
Agency—Briggs & Varley, Inc.
MARCHANT CALCULATING MACHINE CO. . 11
Agency—Doremus & Co.
MARSH & McLENNAN, INC. 106
Agency—Doremus & Co.
McGRAW-HILL BOOK CO. INC. 117
McGRAW-HILL PUBLISHING CO., INC. ... 76-77
METROPOLITAN LIFE INSURANCE CO. 35
Agency—Young & Rubicam, Inc.
THE MICHAELS ART BRONZE CO., INC. 106
Agency—Jaap-Orr Co.
MONARCH RUBBER CO. 116
Agency—H. M. Klingensmith Co.
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Agency—Fuller & Smith & Ross Inc.
OZALID PRODUCTS DIV., GENERAL ANILINE & FILM CORP. 93
Agency—Young & Rubicam, Inc.
THE PENNSYLVANIA CO. 85
Agency—N. W. Ayer & Son, Inc.
PENNSYLVANIA RAILROAD 59
Agency—Al Paul Lefton Co., Inc.
PERMANENTE METALS CORP. 83
Agency—Young & Rubicam, Inc.
PITNEY-BOWES, INC. 90
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Agency—Bond & Starr, Inc.
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ROYAL TYPEWRITER CO., INC. 17
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ST. PETERSBURG CHAMBER OF COMMERCE 107
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L. SONNEBORN SONS, INC. 43
Agency—James Thomas Chirurg Co.
SPECO, INC. 108
Agency—Palm & Patterson, Inc.
SQUARE D COMPANY 62
Agency—Reincke, Meyer & Finn, Inc.
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THE STURGIS POSTURE CHAIR CO. 102
Agency—Blaco Adv. Agency
SURFACE COMBUSTION CORP. 54
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Agency—Sutherland-Abbott
TINNERMAN PRODUCTS, INC. 91
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THE TREND

Debunking a Basic Communist Myth

It is the nature of totalitarian governments to propagate myths about themselves. Dictatorships find myths useful both in bolstering their power at home and in winning friends (or frightening enemies) abroad.

The Hitler regime in Germany circulated—and pretty successfully, too—a host of falsehoods and half-truths. But when it comes to myth-making, the Stalin regime in Russia wins hands down.

The myth that Russia is a democracy is a prize example of what the Kremlin can concoct. However, one Soviet myth more than any other has won Stalin support inside Russia, and has encouraged Soviet sympathizers all over the world to look for the coming of Utopia under the Red flag. It goes this way:

The Soviet Union has a smoothly functioning planned society, which gives the Russian people a steadily rising standard of living. By central planning and state ownership of all the means of production, the USSR has ended the cycle of boom and bust that periodically leads to economic crisis in capitalist countries and ultimately forces them to seek a solution in aggressive war.

Careful students of the Soviet economy have not been bamboozled by this myth. But it was not until recently that we found one student who finally put two and two together and literally turned the tables on the Kremlin. In the September issue of Commentary, Guenter Reimann has demonstrated pretty effectively that the Soviet economy has its own cycle of boom and bust. He goes further, and argues that out of the internal stresses and strains of the Soviet economic system arises a compelling need for foreign expansion.

Top-Heavy Bureaucracy

It is the fantastic cost of nonproductive spending in the USSR that brings on crises in the system. The totalitarian state is a huge parasitic body. The basic state administration in Russia is huge to begin with. Thus, before the war, the American economy required one "bookkeeper" (including accountants, statisticians, etc.) for every 54 workers; the Russian economy, one for every 20 workers.

But on top of the basic administration in Russia, there are "swollen armies of supervisors to supervise the bureaucracy." The Communist party has its special agents throughout the administration and industry. The MVD (secret police) has its men watching both the bureaucrats and the party agents.

The bureaucrats and the "supervisors" are the high-income groups in Russia. Their demands are constantly rising. To leave this group unsatisfied would be to weaken the class that forms the social foundation of the entire system. Yet the more the state seeks to increase this group's share in the national wealth, the more it contributes to waste and unproductive expenditures.

That, according to Reimann, creates the "business cycle" of the Soviet economy—a cycle which differs from that in capitalist countries, but is even more disastrous.

The Russian Cycle

The Russian system swings through a pendulum from Left (when the state increases its take) to Right (when the pressure is temporarily released). The typical Soviet business cycle follows a pattern something like this:

In the Left phase, the state increases its demands on the economy. Controls are tightened. Capital-goods production rises at the expense of consumer goods. The ration card takes the place of the ruble. As consumption by the state rises, consumption by individuals falls.

But muddled planning leads to sabotage. Production declines. The black market and widespread barter appear. So, just as the government is faced with rising expenditures for capital-goods expansion, there comes a drop in production and a collapse of distribution. As a result, the state introduces coercive measures against producers. It also employs mass terror against the population.

However, these measures make matters worse. And the authoritarian planners reluctantly decide that the only way out of the crisis is to take a turn to the Right and offer the Russian people the incentives of a market economy. So the state cuts its expenditures. It reduces capital-goods production and raises the output of consumer goods. The black market is turned into a "free" market, rationing is ended, living standards rise.

But the Kremlin can't afford to let this Right trend develop too far. Economic freedom creates private wealth, which attracts social prestige and political power. It could lead to the growth of opposition groups. So there's another crisis, and another turn to the Left.

Escape Mechanisms

As the Russian cycle swings from Left to Right and back again, it tends to become a permanent crisis. And the Kremlin has to seek an escape in two directions: (1) increased use of forced labor; and (2) foreign expansion.

Forced labor helps because the crises of the Soviet economy bring a drastic shortage of labor, not mass unemployment as under capitalism.

But forced labor is only a temporary expedient; it is consumed rapidly. So the Soviet economy attaches foreign countries to itself as shock absorbers, whose function is to contribute to maintenance of the inflated state machine.

We don't agree with Reimann that the sole motivation behind the USSR's postwar expansion is to remedy its business cycle. This is applying a strictly Marxist interpretation to the motives of a Marxist-inspired system. But we do agree that Reimann has done a useful job in puncturing one of the basic myths in the folklore of Soviet communism.

D 8695